NGO NETWORKS FOR HEALTH
DETAILED MONITORING AND EVALUATION PLAN

NGO NETWORKS FOR HEALTH
DETAILED MONITORING AND EVALUATION PLAN

Joseph J. Valadez
Senior Monitoring and Evaluation Advisor

February 2000

A publication of the
NGO Networks for Health Project

Additional copies may be obtained from:

NGO Networks for Health
1620 I Street NW, Suite 900
Washington, DC 20006
Tel. 202-955-0070
Fax 202-955-1105
http://www.ngonetworks.org

TABLE OF CONTENTS

LIST OF ACRONYMS

ADRA	Adventist Development and Relief Agency International
AIDS	Acquired Immune Deficiency Syndrome
BF	Breast Feeding
BHR	Bureau of Humanitarian Response
CA	Cooperating Agency
CARE	Cooperative for Assistance and Relief Everywhere
CARE-MoRR	CARE's Management of Reproductive Risk project
CBD	Community-Based Distributor
CDC	Centers for Disease Control and Injury Prevention
CHW	Community Health Worker
CORE	Child Survival Collaboration and Resources Group
CPR	Contraceptive Prevalence Rate
CS	Child Survival
CSTS	Child Survival Technical Support
CYP	Couple-Years Protection
DCM	Diarrheal Case Management
EOC	Essential Obstetric Care
EPI	Expanded Programme on Immunization
FP	Family Planning
G/PHN	USAID's Global Bureau, Center for Population, Health, and Nutrition
GIS	Geographic Information System
HIV	Human Immunodeficiency Virus
IMR	Infant Mortality Rate
IR	Intermediate Result
KPC	Knowledge, Practice, and Coverage
LMIS	Logistical Management Information System
LQAS	Lot Quality Assurance Sampling
M&E	Monitoring and Evaluation
MIS	Management Information System
MOH	Ministry of Health
NGO	Nongovernmental Organization
NMU	*Networks* Management Unit
PATH	Program for Appropriate Technology in Health
PCM	Pneumonia Case Management
PLAN	Plan International
PVC	Private Voluntary Cooperation
PVO	Private and Voluntary Organization
R4	Results Reporting and Resource Request
RH	Reproductive Health
SAVE	Save the Children USA
SCM	Standard Case Management
SDP	Service Delivery Point

SO	Strategic Objective
STI	Sexually Transmitted Infection
TFR	Total Fertility Rate
TOST	Training of Survey Trainers
TT	Tetanus Toxoid
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VitA	Vitamin A
WHO	World Health Organization

EXECUTIVE SUMMARY

Purpose of the Monitoring and Evaluation Plan: This document serves four main purposes. It:

1. describes NGO Networks for Health Monitoring and Evaluation (M&E) Plan, including procedures;
2. presents an approach that PVOs can use to carry out high quality service provision through high quality M&E at the country level, either alone or in a network;
3. presents illustrative M&E indicators that can be used as *core* indicators that the *Networks* project will report to the Global Bureau, Center for Population, Health, and Nutrition (G/PHN), and other *priority* indicators that the *Networks* Management Unit (NMU) would use to monitor the project. Additional indicators, which are as yet *untested*, are also considered to facilitate program management; and
4. indicates how the project will interact with USAID missions with respect to M&E.

In short, this document describes how the project will track progress made toward reaching the Strategic Objective (SO) and principal Intermediate Results (IR). By so doing, the information produced through the M&E Plan will increase our understanding of how to develop NGO networks.

Strategy: The *Networks* project M&E approach is decentralized and intended to assist managers at all levels make decisions and report. The approach serves the M&E in-country needs as well the *Networks* project's reporting needs to USAID (G/PHN and missions). The *Networks* project's M&E approach is discussed from two points of view: (1) indicators of project activities, and (2) methods for organizing M&E with the PVO Partners, and in focus countries with participating PVOs/NGOs, and missions. The guiding principles of the M&E strategy include:

- to provide a range of performance information on the project's SO and IRs 1-4 to aid management and stakeholder decision making; and
- to augment existing M&E systems of the Partner PVOs and increase their capacity to monitor and evaluate their efforts with a variety of proven methods and tools, as well as to better use the data they already have.

Reporting Indicators: Thirteen illustrative core indicators are presented in this document. Additional indicators are presented in Annex 1. SO indicators measure *use, behavior change, and practice* related to FP/RH/CS/HIV services and information. IR indicators assess one or more of the following: *access, availability, capacity, commitment, knowledge, quality, and sustainability.*

Not all core indicators will be measured in all focus countries where the project works. The full package of FP/RH/CS/HIV services comprise at least 10 categories of interventions: family planning, reproductive health, diarrhea case management, breast feeding, immunizations, pneumonia case management, malaria, Vitamin A supplementation, nutrition interventions, and HIV/AIDS/STI interventions. Probably, at most three to five categories of interventions will be implemented in any country. Therefore, only the core indicators pertinent to those focus country activities will be reported to G/PHN.

Additional indicators (that may overlap with core indicators) include:

- indicators selected by the local PVOs/NGOs/network to manage the focus country project,

- indicators needed by the local mission that feed into the R4 process, and
- priority indicators needed by the *Networks* project NMU to track the project.

Organizing M&E Activities at the Country Level: The *Networks* project is committed to providing technical assistance in M&E to NGO networks established or strengthened by the project. This assistance includes aiding them develop a capacity to collect and analyze data and to use results in strategic planning of new or expanded FP/RH/CS/HIV services and information provision. Data collection will be in accordance with accepted international standards and will involve documenting the status of NGO networks when the project began and tracking their performance against the objectives set out in their collectively developed country work plan. Whenever possible the *Networks* project will build on the M&E systems already in place.

Networks' M&E Plan will use:

- baseline assessments,
- program monitoring at various levels,
- process evaluations, and
- impact evaluations.

Coordination with Local USAID mission: A guiding principle for developing an M&E plan at the country level will be to work closely with PVO/NGOs and the USAID mission to arrive at an appropriate approach that serves their reporting and management needs. With respect to M&E, coordination with the mission will include:

- review of the mission's strategy,
- identification of indicators that the *Networks* project needs to track that will contribute to the mission and that feed into the R4 process,
- identification of acceptable data collection methods,
- discussion of data quality and presentation formats required by the mission, and
- determining the reporting interval of mission indicators.

Focus Country M&E Entry Plan: An organizational assessment of M&E capabilities of the PVOs/NGOs/networks will include developing an inventory of such things as:

- current M&E and related systems,
- current human resources available for M&E and their level of experience, and
- senior management perspectives.

A second set of tasks in the focus country includes: informing senior management of local PVO/NGO/networks about the *Networks* project M&E Plan and seeking their commitment to embrace its approach as a means to aid local management of the project activities.

The information gathered during M&E institutional assessment will be used to plan technical assistance to PVOs/NGOs/networks in the focus country to prepare them for participating in the project. For example, if they have a MIS that needs strengthening, then the *Networks* project can provide the technical assistance to strengthen it.

I. INTRODUCTION

A. Background

The NGO Networks for Health project (*Networks*) is implemented by a consortium of five US PVOs working as a partnership: the Adventist Development and Relief Agency (ADRA), the Cooperative for Assistance and Relief Everywhere (CARE), the Program in Appropriate Technology for Health (PATH), Plan International, and Save the Children/USA. The *Networks* project is based on the assumption that current family planning (FP) and other reproductive health (RH),[1] child survival (CS), and HIV/AIDS services cannot meet the projected demand for these services. The project will address growth in demand for services and information, by examining whether services can be improved through new collaborative approaches such as networks and partnerships of PVOs and NGOs.

The essential elements of the *Networks* project are to:

- increase the capability of its five consortium members to carry out higher quality family planning, reproductive health, child survival, and HIV/AIDS programs more collaboratively; and
- develop 4-8 focus country networks among PVOs, NGOs, and public and other private providers so as to increase provision of FP/RH/CS/HIV information and services among 10-20% of the client population in each country and/or project area.

In addition, the *Networks* project expects to improve the capacity of the PVO Partners to increase the quality and collaborative nature of FP/RH/CS/HIV programming in other countries in which the PVO Partners operate.

B. Purpose of the Monitoring and Evaluation (M&E) Plan

This document serves four main purposes. It:

1. describes the *Networks* project Monitoring and Evaluation (M&E) Plan, including its procedures;
2. presents an approach that serves the needs of PVOs to carry out high quality service provision and high quality M&E at the country level, either alone or in a network;
3. presents illustrative M&E indicators that can be used as *core* indicators which the project will report to the Global Bureau, Center for Population, Health and Nutrition (G/PHN), and other indicators which will be used by the *Networks* Management Unit (NMU) to monitor the project. Indicators to be used locally for managing and assessing specific focus-country activities are not considered in this document; and
4. indicates how the project will interact with USAID missions with respect to M&E.

In short, this document demonstrates how the project will track progress made toward reaching the Strategic Objective (SO) and principal Intermediate Results (IRs). By so doing, the information produced by the M&E Plan will increase our understanding of how to develop NGO networks. As the M&E Plan is aimed at assessing the project vis-a-vis the Results Framework, it is displayed in Figure 1.

[1] In this document and in this project the term *reproductive health* refers to *Safe Motherhood*. Family planning and HIV/AIDS/STI interventions are represented under their own headings.

STRATEGIC OBJECTIVE

Increased Use of FP/RH/CS/HIV Practices and Services through Enhanced Capacities of PVO/NGO Networks

PRINCIPAL IRS

ONE: Sustained PVO capacity to provide quality FP/RH/CS/HIV services

TWO: Accurate knowledge and sustained behavior change at the community level

THREE: Expanded, sustained PVO/NGO networks to provide FP/RH/CS/HIV service delivery

FOUR: Expanded service coverage through public/private and private/private partnerships

INTERMEDIATE RESULTS (IRs)

1.3 Improved FP/RH/ CS/HIV service delivery in PVO project areas

1.2 Improved capacity of PVOs to provide state-of-the-art FP/RH/CS/HIV services

1.1 Increased organizational commitment to use state-of-the-art FP/RH/ CS/HIV programming

2.2 Increased implementation of effective behavior change intervention (BCI) strategies

2.1 Increased PVO/ NGO capacity to integrate behavior change interventions (BCIs) into FP/RH/CS/ HIV programs

3.3 Improved delivery of FP/RH/CS/HIV services through networks

3.2 Increased capacity of networks to provide improved coverage and quality services

3.1 Increased PVO/NGO commitment to improve quality and availability of FP/RH/CS/HIV services and information, through created/ strengthened networks

4.3 Improved service delivery through public/ private and private/private

4.2 Increased formalization of public/ private and private/ private partnerships

4.1 Increased public/ private commitment to provide FP/RH/CS/HIV information and services through partnerships

PROBLEM STATEMENT

Current health care delivery systems are unable to effectively address the needs of growing populations for FP/RH/CS/HIV information and services.

DEVELOPMENT HYPOTHESIS

Enhancing PVO/NGO capacity to provide FP/RH/CS/HIV services and strengthening PVOs/NGOs will result in a significant and sustainable increase in the quality, access, and use of health information and services.

The intended audiences for this M&E Plan include: the PVO Partners, local PVOs and NGOs networks, G/PHN, and USAID missions. Through this document dissemination strategy, the M&E Plan may become an *organic document* and improve with comments from these various stakeholders.

C. Definitions of M&E

C1. Monitoring

Monitoring is a regular assessment to track performance in an objective, agreed-upon manner to determine whether project activities are being implemented as planned and to assess whether the strategic objective and intermediate results are being reached. Several types of variables will be collected regularly to track progress such as those concerning: use/practice, organizational commitment, knowledge, quality of services, access, availability, and actions related to sustainability of project effects. Illustrative indicators for each of these categories are presented in Table 1 and in Annex 1.

C2. Evaluation

Evaluation activities under *Networks* entail two categories of assessment: process and impact evaluations.

Process Evaluations

These are used to assess whether institutional changes intended by the project are taking place, and whether these changes contribute to improve the capabilities of PVO Partners and the *Networks* project. Process evaluation may also be diagnostic in nature, investigating performance problems identified through monitoring. In short, they determine whether *the system is working*, and if not, why not, as well as what can be done to improve it. For example, process evaluations will be useful for ameliorating problems in access and availability. In practical terms, let's assume that an insufficient number of service delivery points exists in the project area. A process evaluation will determine the underlying reason for this deficiency and recommend a solution. Process evaluations can also lead to the identification of operations research to be undertaken in the project. For example, let's assume that a focus of a country level activity is to reduce fertility and infant mortality. The *Networks* project could determine that this setting was highly suitable for assessing various strategies for using birth spacing to reduce both the total fertility rate (TFR) and the infant mortality rate (IMR). It could also use the study for cross validating recent results that suggest a linear negative relationship between birth interval and IMR.

Impact Evaluations

Also referred to as *summative evaluations,* these will assess whether project objectives have been reached in focus countries, and the accuracy of the *development hypothesis* stated in the Results Framework. In short, they will assess the hypothesis that: If PVO/NGO capacity in providing FP/RH/CS/HIV services is enhanced and if PVO/NGO networks are created and/or strengthened, there will be a significant and sustainable increase in the quality, access, and use of health information and services.

There are a wide variety of definitions of M&E concepts [1]. Those used here are derived from the field of program evaluation as established by Campbell and Stanley [2-4].

D. Strategy

The *Networks* project M&E approach is intended to assist managers at all levels make decisions. It therefore focuses on decentralized M&E in the countries as well as on the needs of the *Networks* project to report to USAID (G/PHN and the mission). The *Networks* project's M&E approach will be discussed from two points of view: (1) indicators of project activities, and (2) methods for organizing M&E with the PVO Partners, and in focus countries with participating PVOs and NGOs, and with USAID missions. The guiding principles of the M&E strategy include:

- provide a range of performance information on the project's SO and IRs 1-4 to aid management and stakeholder decision making; and
- augment existing M&E systems of Partner PVOs as well as to aid them to build capacity to monitor and evaluate their efforts with a variety of proven methods and tools, as well as to better use the data they already have.

II. INDICATORS

A. The Results Framework

The M&E design is tied to the Results Framework (Figure 1) as discussed in the *Networks* project Workplan. While the entire Results Framework is useful for project planning and managing implementation, the M&E design is parsimonious and provides information useful for reporting to USAID's G/PHN, and to PVO Partners. In order to create this clarity, the M&E Plan focuses only on the Strategic Objective and Intermediate Results 1-4.

The SO for NGO Networks for Health is: Increased use of FP/RH/CS/HIV practices and services through enhanced capacities of PVO/NGO networks.

The SO will be achieved through accomplishing the project's principal Intermediate Results which include:

IR1: Sustained PVO capacity to provide quality family planning/reproductive health/child survival/HIV services.

IR2: Accurate knowledge and sustained behavior change at the community level.

IR3: Expanded, sustained PVO/NGO networks to provide FP/RH/CS/HIV service delivery.

IR4: Expanded service coverage through public/private and private/private partnerships.

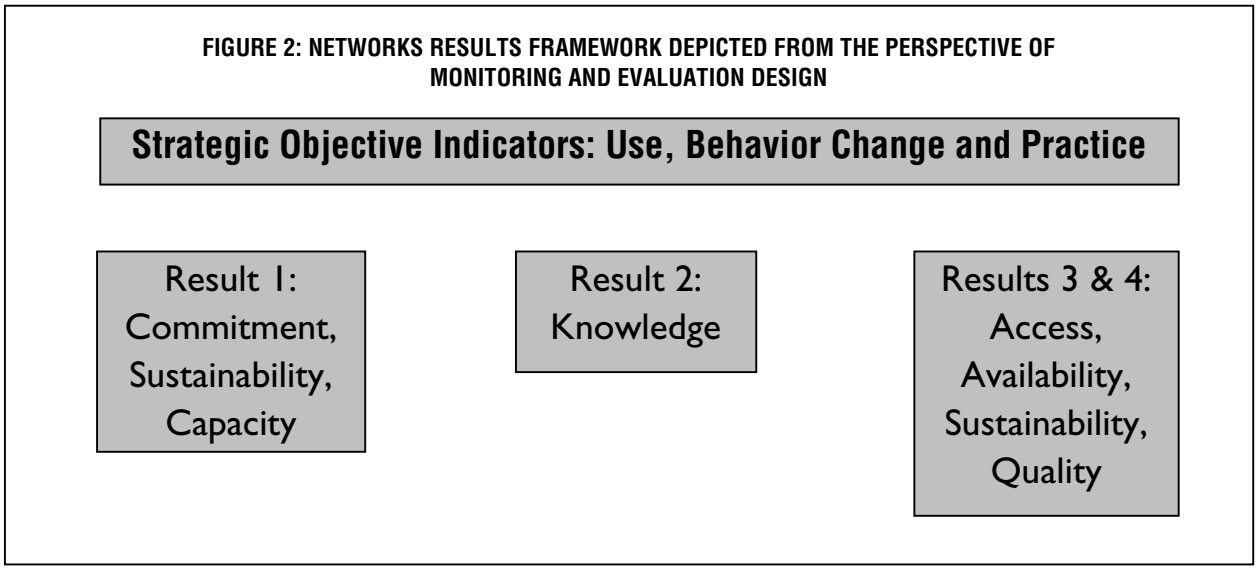
Each IR concerns a different aspect of the project. IR1 concerns improving PVO Partners' health programs. It assumes that technical training, organizational development, and promoting linkage of FP/RH/CS/HIV among headquarters and field staff will create the understanding needed for each PVO to commit to changes needed to strengthen their own FP/RH/CS/HIV service provision. Each partner will institutionalize lessons learned from the *Networks* project which will lead to sustained capacity of PVOs. IR2 focuses on creating understanding and awareness in the many communities that PVOs and NGOs serve so that clients practice appropriate healthy behaviors and use life-saving health practices and services. IR3 focuses on local development of FP/RH/CS/HIV service and information networks among current and potential local providers. IR4 will enhance collaboration across the public and private sectors' providers. This result is driven by the idea that by aiding PVOs/NGOs to see the potential of realizing partnerships, they will develop and sustain concrete mechanisms for collaboration.

B. Creating Indicator Categories

Indicators proposed in this document are associated with either the SO or a specific IR. Overlap between SO and IRs, and among the IRs is eliminated. The main concern, as stated in the SO, is *use and practice* of FP/RH/CS/HIV information and service. SO indicators, therefore, measure *use, behavior change, and practice*. Each IR also has one or more special focus summarized as *access, availability, capacity,*

commitment, knowledge, quality, and sustainability. Figure 2 shows the association of these concepts with their respective intermediate results.[2]

FIGURE 2: NETWORKS RESULTS FRAMEWORK DEPICTED FROM THE PERSPECTIVE OF MONITORING AND EVALUATION DESIGN



C. Selecting Indicators

Illustrative indicators in this section were selected in three ways. Firstly, indicators included in the *Knowledge, Practice, and Coverage* (KPC) survey as used by the PVOs associated with the Child Survival Collaborations and Resources Group (CORE) were considered [5]. Secondly, indicators recommended by Flagship Cooperating Agencies (CAs) and USAID were collated [6-46]. They also included indicators taken from the Health Facility Assessment tool developed by BASICS [34]. Thirdly, indicators from international organizations and from PVOs were reviewed [3-5, 44, 45, 47-56]. Fourthly, FP/RH/CS/HIV indicators were created by the *Networks* project team on those few occasions when the above sources did not suffice. Additional indicators for institutional development (under IR1) will be developed by the PVO Partners themselves later in 1999. The *Networks* project Senior Capacity Building Advisor will lead them through an organizational self-assessment to identify how each PVO partner will increase its commitment and capacity to provide FP/RH/CS/HIV services and how to strengthen partnerships in the network for capacity building. Those presented in this document were developed by *Networks* project team members.

As the work being carried out on the organizational self-assessment is crucial to assessing the *Networks* project, the M&E Plan will be linked closely to the work being carried out under IR1.

[2] Certain principal IRs and sub-IRs results have overlapping concepts. For example, IR2 includes the concept of *behavior change* which arguably could be measured under the SO as *use or practice*. The term *service delivery* in IR3 could be construed to include *use or practice* measures. In IR4 the concept of *expanded service coverage* could also be interpreted to mean *use or practice.* The M&E Plan has eliminated such overlapping.

D. Illustrative Core Indicators

When using the term *core indicators* we mean the set of indicators that the *Networks* project commits to report to G/PHN to comply with the terms of *Networks* project's Cooperative Agreement. Table 1 includes 13 indicators that are illustrative of *core indicators* the project will use and their association with the SO and IRs. The *Networks* project will report the status of core indicators at annual intervals beginning with the commencement of activities in focus countries. Selection of core indicators will take place collaboratively with G/PHN as a step in implementing the M&E Plan (see Annex 4).

TABLE 1: ILLUSTRATIVE CORE INDICATORS FOR ASSESSING THE STRATEGIC OBJECTIVE AND INTERMEDIATE RESULTS 1-4			
STRATEGIC OBJECTIVE: TO INCREASE THE USE OF FP/RH/CS/HIV SERVICES THROUGH THE ENHANCED CAPACITIES OF PVO/NGO NETWORKS			
DATA SOURCE: A=WOMEN WITH CHILDREN 12-23 MO, B=WOMEN 15-49 YRS, C=WOMEN WITH INFANTS 0-5 MO, D=WOMEN WITH INFANTS 6-11 MO, E=HEALTH FACILITIES, F=LMIS, G=HEALTH WORKERS, H=SEXUALLY ACTIVE MEN 15-49, I=DRUG SELLERS, J=COMMUNITIES			
Category[3]		**Source**	**Universe/ Age Stratum**
FP/RH	CPR (or % women 15-49 currently using contraception by method) (stratified by new/old acceptors, and 0, 1, 2 parity)	KPC, LQAS	B
CS: DCM	% children 0-23 months who have had diarrhea in the past two weeks who received ORS (as per the definition used by the national diarrhea disease control program) or a recommended home fluid (case stratified)	KPC, LQAS	A, C, D (case stratified)
CS: EPI	% mothers with children 12-23 months receiving TT2 during/before pregnancy	KPC, LQAS	A
IR 1: Sustained PVO Capacity To Provide Quality FP/RH/CS/HIV Services			
Sustainability	Number of country offices of PVO Partners with new or expanded FP/RH/CS/HIV services	Annual PVO reports	PVO Partners
Commitment	Number of actions implemented by PVO Partners developed from the organizational self-assessment (Agreed-upon changes will be incorporated here with corresponding indicators stated)	PVO Reports	PVO Partners
IR 2: Accurate Knowledge and Sustained Behavior Change at the Community Level [4]			
Knowledge	% women 15-49 who know 3 or more modern methods of contraception, their major contraindications, & how they work	KPC, LQAS	B
Knowledge	% adults who know the closest location to have a delivery by a clinically trained practitioner	KPC, LQAS	B, H
Knowledge	%adults aged 15-49 who cite at least two acceptable ways of reducing risk of HIV infection	KPC, LQAS	B, H
IR 3: Expanded, Sustained PVO/NGO Networks to Provide FP/RH/CS/HIV Service Delivery			
Access	% population in focus countries covered by the network with FP/RH/CS/HIV services (To also be used to assess IR 4)	DHS, Census, MOH	project catchment Area

[3] FP= Family Planning, RH= Reproductive Health, CS= Child Survival, DCM= Diarrhea Case Management, BF= Breast Feeding, EPI= Expanded Programme in Immunization, VitA= Vitamin A supplementation

[4] For IR2 *Accurate Knowledge* is measured with IR2 indicators; *Behavior* is measured with SO indicators. For reasons of clarity, all *use and practice* indicators are located under the SO.

IR 4: Expanded Service Coverage through Public/Private and Private/Private Partnerships			
Access	% of the population in network catchment area within 5 km or 1 hour of facilities providing reliable and continuous FP/RH/CS/HIV services (intervention specific)	Health Facility	E
Access	% of network SDPs in the project area providing quality FP/RH/CS/HIV services (stratified by intervention)	Health Worker	G
Access	CYP	LMIS	F
Access	Number of confirmed referrals for clinical contraception by method	CBD Records	E

Table 2 displays the distribution of core indicators across the different FP/RH/CS/HIV services and information the project will provide. Two indicators need explanation: *generic* and *institutional.* The former refers to indicators that assess any of the FP/RH/CS/HIV services. The latter refers to the institution strengthening activities of networks. As Table 2 shows, 38% of core indicators focus exclusively on FP/RH services and information. By contrast, 16% of the indicators concern CS, 15% focus on *institutional development* of PVOs and networks, and 8% concern HIV. When *generic* indicators are included, a total of 61% (i.e., 38% + 23%) of the indicators concern FP/RH services and information.

TABLE 2: DISTRIBUTION OF CORE INDICATORS BY SERVICE/INFORMATION TYPE AND BY SO/IR

	SO	*R1*	*R2*	*R3*	*R4*	***Total***	***Percentage***
Generic	0	0	0	1	2	3	23%
Institutional	0	2	0	0	0	2	15%
FP/RH	1	0	2	0	2	5	38%
DCM	1	0	0	0	0	1	8%
BF	0	0	0	0	0	0	0%
EPI	1	0	0	0	0	1	8%
PCM	0	0	0	0	0	0	0%
VIT A	0	0	0	0	0	0	0%
Nutrition	0	0	0	0	0	0	0%
HIV	0	0	1	0	0	1	8%
Total	3	2	3	1	4	13	100%

Additional noncore indicators will be used to manage networks both in the NMU and in focus country activities. The full list of illustrative core and noncore indicators that will be used by the NMU is found in Annex 1. The *Networks* project will use a *pyramidal* system of indicators in which the various levels of the program will have indicators of different specificity. In short, indicators used in focus countries will have the greatest amount of specificity and reflect the local context, whereas *core indicators* will have the greatest generaliziblity in that they could be applied in any focus country.

Additional indicators will be needed in focus countries for in-country management of project activities. Many of these will be derived from the already field-tested KPC survey instrument.[5] Others will be

[5] The CORE Group is currently reviewing the KPC survey instrument to determine whether it includes state-of-the-art primary health care information. The activity is being carried out with technical assistance of the Child Survival Technical Support project (CSTS).

developed locally. The Senior M&E Advisor will work with country level project teams to develop other indicators that are relevant to their own focus countries' project activities. Similarly, we expect that PVO Partners will have additional indicators that they propose to monitor for their own organizations' purposes.

The *Networks* project's approach will avoid duplication by using existing tools and approaches when possible. It will apply the lessons learned by others while not losing sight of its own specific needs.

E. Final Core Indicator Selection

The process and time schedule for selection core indicators has been taking place in five steps:

1. An *indicators technical consultation* was organized with a small group of M&E colleagues from Partner and nonpartner PVOs, cooperating agencies (CAs), and USAID to recommend core and non-core indicators and to discuss the approach to data collection (February 16, 1999).
2. Comments obtained from the consultation were used to modify the illustrative core indicators presented in Table 1 and Annex 1. This draft was circulated on March 8 to the members of the technical consultation, PVO Partners, and G/PHN.
3. Final comments were due by March 15 and integrated into a final draft of core indicators and submitted to the PVO Partners and G/PHN by March 18.
4. This draft was the basis for a discussion between the Senior M&E Advisor and G/PHN on March 18 to agree on a tentative set of core indicators and on a process for making a definitive selection.
5. Using the M&E Plan as a basis for discussion, the Senior M&E Advisor worked with G/PHN in further technical consultations to use the agreed-upon process to select a final set of core indicators that occurred prior to May 3.

F. Reporting Core Indicators

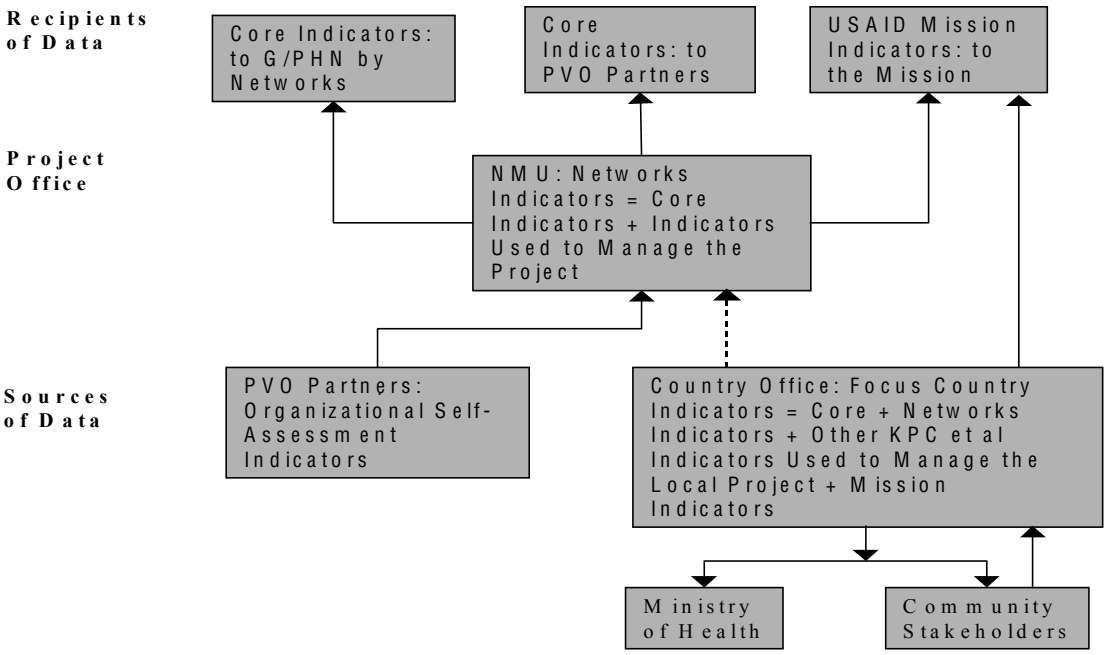
Not all core indicators will be measured in all focus countries. The full package of FP/RH/CS/HIV services comprise at least 10 categories of interventions: family planning, reproductive health, diarrhea case management, breast feeding, immunizations, pneumonia case management, malaria, Vitamin A supplementation, nutrition interventions, and HIV/AIDS/STI interventions. At most, three to five categories of interventions will probably be implemented in any one country. Therefore, only the core indicators pertinent to those focus country activities will be reported to G/PHN. Table 3 provides an example of how illustrative core indicators would be reported to G/PHN for five hypothetical countries.

TABLE 3: EXAMPLE OF HOW CORE INDICATORS WILL BE REPORTED FROM FIVE HYPOTHETICAL FOCUS COUNTRY PROJECTS: "X" REFERS TO A NUMERICAL VALUE						
STRATEGIC OBJECTIVE: TO INCREASE THE USE OF FP/RH/CS/HIV SERVICES THROUGH THE ENHANCED CAPACITIES OF PVO/NGO NETWORKS						
Type	**Indicator**	**Malawi**	**Vietnam**	**Turkmenistan**	**Indonesia**	**Nicaragua**
FP/RH	CPR (or % women 15-49 currently using contraception by method) (stratified by new/old acceptors and 0, 1, 2 parity)	X	--	X	X	X
CS: DCM	% children 0-23 months who have had diarrhea in the past two weeks who received ORS (as per the definition used by the national diarrhea disease control program) or a recommended home fluid (case stratified)	X	X	--	X	X
CS: EPI	% mothers with children 12-23 months receiving TT2 during/before pregnancy	X	X	--	X	X
IR1: Sustained PVO Capacity To Provide Quality FP/RH/CS/HIV Services						
Sustainability	Number of country offices of PVO Partners with new or expanded FP/RH/CS/HIV services	HQ	HQ	HQ	HQ	HQ
Commitment	Number of actions implemented by PVO Partners developed from the organizational self-assessment (Agreed-upon changes will be incorporated here with corresponding indicators stated)	HQ	HQ	HQ	HQ	HQ
Commitment	Number of PVO Partners that follow through on action plans developed from the organizational self-assessment	HQ	HQ	HQ	HQ	HQ
IR2: Accurate Knowledge and Sustained Behavior Change at the Community Level						
Knowledge	% women 15-49 who know 3 or more modern methods of contraception, their major contraindications, and how they work	X	--	X	X	X
Knowledge	% adults who know the closest location to have a delivery by a clinically trained practitioner	X	X	X	X	X
Knowledge	%adults aged 15-49 who cite at least two acceptable ways of reducing risk of HIV infection	X	X	X	X	X
IR 3: Expanded, sustained PVO/NGO networks to provide FP/RH/CS/HIV service delivery						
Access	% population in focus countries covered by the network with FP/RH/CS/HIV services (To also be used to assess IR 4)	X	X	X	X	X
IR 4: Expanded service coverage through public/private and private/private partnerships						
Access	% of the population in network catchment area within 5 km or 1 hour of facilities providing reliable and continuous FP/RH/CS/HIV services (intervention specific)	X	X	X	X	X
Access	% of network SDPs in the project area providing quality FP/RH/CS/HIV services (stratified by intervention)	X	X	X	X	X
Access	CYP	X	--	X	X	X
Access	Number of confirmed referrals for clinical contraception by method	X	--	X	X	X

G. Core, Networks, and Focus Country Indicators

Indicators will be collected at the field level and from PVO Partners for use in managing the project and for reporting purposes. As already mentioned, this document discusses core and *Networks* indicators. It does not consider local indicators, other than to say that they will be derived from the KPC survey questionnaire used regularly by PVOs and which the CORE Group is currently refining with the Child Survival Technical Assistance project (CSTS). The Knowledge, Practice, and Coverage (KPC) instrument collects data that reflect local needs. It also will not consider indicators for monitoring institutional change in the PVO Partners other than at the SO and IR1 level. Figure 3 shows the relationship of indicators in the project.

Figure 3: Reporting Flow of Indicators in the Networks Project



III. ORGANIZING M&E ACTIVITIES AT THE COUNTRY LEVEL

This section presents a general plan for organizing M&E activities in focus countries. However, because each country will present different challenges, the M&E plan will be flexible and adapt to the country circumstances.

In focus countries the *Networks* project approach emphasizes three points, namely use of indicators that:

1. aid local project staff to manage project activities,
2. are relevant to the local USAID mission and that feed into its R4s, and
3. are needed by the NMU for project management and reporting as core indicators.

The *Networks* project is committed to providing technical assistance in M&E to NGO networks established or strengthened by the project. This assistance includes aiding them develop a capacity to collect and analyze data, and to use results in strategic planning of new or expanded FP/RH/CS/HIV services and information provision. Data collection will be in accordance with accepted international standards and will involve documenting the status of NGO networks when the project begins and tracking their performance against the objectives set out in their collectively developed country work plan. Whenever possible the *Networks* project will build on the M&E systems already in place. Data collection methods are discussed in a later section. The following section describes a country entry plan for working with local project staff.

A. Coordination with Local USAID mission

A guiding principle for developing an M&E plan at the country level will be to work closely with PVO/NGOs and the USAID mission to arrive at an appropriate approach that services their reporting and management needs. In preparation for the development of a *Networks* implementation plan in a focus country, the Senior M&E Advisor will carry out institutional assessments with counterparts to identify existing M&E capabilities of the PVOs/NGOs/networks managing project activities. An essential preliminary step to carrying out this task successfully is close coordination with the local USAID mission. The purpose will be to determine mission reporting requirements and the current capability of counterparts to be responsive to them. Although the *Networks* project results managers will also coordinate with the mission, the Senior M&E Advisor will coordinate with the mission with respect to M&E. Included in this task are:

- review of the mission's strategy,
- identification of the mission's current indicators that feed into the R4 process,
- identification of the subset of these indicators that the *Networks* project needs to track that contribute to the mission and that feed into the R4 process,
- identification of acceptable data collection methods,
- discussion of data quality and presentation formats required by the mission, and
- determining the reporting interval of mission indicators.

B. Focus Country M&E Entry Plan

This section describes an approach that assumes close coordination with the local USAID mission financing project activities. An organizational assessment of M&E capabilities of the PVOs/NGOs/networks will include developing an inventory of such things as:

- ❖ current M&E and related systems:
  - the management information system for monitoring intervention of related inputs, outputs and human resources,
  - quantitative and qualitative procedures for monitoring and evaluating interventions,
  - sampling procedures in use or preferred for data collection,
  - indicators used for M&E, instruments used for collecting MIS and M&E information,
  - databases for storing MIS and M&E information,
  - database management systems including analysis of quantitative and qualitative information, and
  - report preparation;

- ❖ current human resources available for M&E and their level of experience:
  - supervision systems and capacity building systems in use for relevant interventions,
  - skills and qualifications of personnel responsible for managing management information systems (MIS) and M&E,
  - skills and experience of personnel responsible for data collection,
  - skills and experience of personnel responsible database management and analysis,
  - current need for skills update and training,
  - current skills and personnel able to carried out formative and operations research, and
  - capability to use qualitative and quantitative data in strategic and program planning;

- ❖ senior management perspectives:
  - current use of MIS and M&E information for strategic planning, and
  - PVO/NGO plans for enhancing M&E capacity and their interest in receiving technical assistance from the *Networks* project.

Following an assessment of the M&E capabilities of local institutions, the Senior M&E Advisor will carry out a second set of tasks in the focus country that include:

- a presentation to the senior management of local PVO/NGO/networks, the *Networks* project core indicators list and discussion of those the focus country project must track[6],
- a presentation of the project's M&E Plan and its information system,
- discussion of the compatibility of the project's M&E Plan and existing M&E systems in participating PVOs/NGOs/network,
- a description of how the project's M&E Plan will aid local management of the project activities,
- a discussion of the *Networks* project's own need for quantitative and qualitative information for management and reporting purposes to the PVO Partners, the mission, and G/PHN,
- description of the Training of Survey Trainers (TOST) workshop that the *Networks* project will hold leading to the baseline survey,

[6] This task assumes that other members of the *Networks* team have already advanced the project design process and that priority interventions have been selected.

- obtaining the commitment of PVOs/NGOs/network to attend the TOST, and
- developing a timeline with respect to M&E activities.

The information gathered during M&E institutional assessment will be used to plan technical assistance to PVOs/NGOs/networks in the focus country to prepare them for participating in the project. For example, if they have an MIS that needs strengthening, then the *Networks* project can provide the technical assistance to strengthen it. Reporting procedures and user friendly software can be provided to participants to facilitate tracking inputs and outputs. Other information would be used to develop the TOST workshop. The TOST curriculum, that was developed to prepare the PVOs receiving CS grants from PVC, will be revisited to determine how it should be modified to respond to the needs of the *Networks* project.

IV. M&E AT THE COUNTRY LEVEL AND PROJECT WIDE

A. Methods and Tools

Network's M&E Plan will use:

- baseline assessment,
- program monitoring at various levels,
- process evaluation, and
- impact evaluation.

These four types of assessments will serve at least two purposes. First, they will provide information on organizational development among the PVO Partners, program development in focus countries, and applications by the PVO Partners of lessons learned. Second, these data and additional comprehensive information will provide information that can be used by local decision makers and stakeholders for planning and management purposes. Information that is pertinent to the latter level will be discussed at a later point in time. The current M&E Plan will focus on the first purpose only.

B. Selecting Indicators for Focus Countries

As previously mentioned, all core indicators that are pertinent to the selected interventions will be included in an indicator list for the focus country. In addition to these, there are three other sets of indicators:

- indicators selected by the local PVOs/NGOs/network to manage the focus country project,
- indicators needed by the local mission that feed into the R4 process, and
- indicators needed by the *Networks* project NMU to track the project; in the indicators lists that follow, these indicators are referred to as *priority* indicators.

All indicators will be developed and discussed in depth during the TOST training, which is discussed later in this document. Preparing the local team to carry out the baseline survey will also be a main focus of the TOST. However, the curriculum will be developed to serve the specific context in which the *Networks* project will work.

A final category of indicator that will be included in the indicator lists is *untested* indicators. These are defined as indicators for which the *Networks* project will collect data, but are unsure as to whether this is feasible or will result in accurate data. Untested indicators which prove not feasible to collect or interpret will be eliminated.

C. Baseline Assessments

To facilitate the ability of the *Networks* project and USAID to judge progress, the project will carefully document conditions at the inception of project activities through quantitative and qualitative **baseline assessments**. Such measures of the capacities and commitment of PVO Partners, as well as of the status of PVOs/NGOs/networks in focus countries, will be a priority during years one and two.

Among the PVOs, the *Networks* project Senior Capacity Building Advisor will lead the PVO Partners through an organizational self-assessment to identify how each PVO Partner will increase its commitment and capacity to provide FP/RH/CS/HIV services and how to strengthen partnerships in the network for capacity building. It is through the self-assessment process that PVO Partners and the *Networks* project will arrive at indicators for assessing institutional change in the PVO Partners. These indicators are primarily related to IR1 in the Results Framework. Further detail about M&E for IR1 is contingent on the outcome of agreements by the PVO Partners concerning the organizational self-assessment.

In focus countries the PVOs/NGOs/network, with the assistance of the *Networks* project, will carry out a baseline assessment at the community level to identify current FP/RH/CS/HIV service use, health practices, knowledge, access, and availability. Health Facility Assessments (or an equivalent instrument) will be used to document the quality of health facilities.

At the time of the baseline survey, qualitative information will also be collected from participating communities. Its purpose is to identify local priorities and local commitment to participating in the project's activities. It should also shed light on the importance of local beliefs, customs, and nomenclature for health problems and health providers that ought to be considered when planning project activities. Many of the PVOs/NGOs/networks will already be knowledgeable about these ethnographic issues. No further discussion of qualitative studies will take place in this document as it should be considered in the *Focus Country Network Development Strategy* of the *Networks* project results managers for IR2-4.

A final set of information to be gathered at the baseline consists of data collected from the MIS to be used by PVOs/NGOs/networks. These data will serve as a test of the system to determine whether it can function to track inputs and outputs, as well as provide relevant initial information to be used in planning the project. These data will be useful to track access and availability of FP/RH/CS/HIV services and information provision.

In summary, baseline assessments will map both headquarters and local contexts to establish initial values for selected indicators. They will also assess the MIS to be used throughout the project's life. These assessments will inform the *Networks* project, PVO Partners, network members in the focus countries, G/PHN, and the local USAID mission about the current project context. It will also contribute to the detailed planning of the interventions, both in focus countries and in activities planned to improve the PVO Partners capability to provide FP/RH/CS/HIV services.

Table 4 displays an example of how baseline data can be used in a focus country to establish initial values of core and other indicators, select interventions based on these data, and objectives which the project expects to reach when it finishes. In Table 4, 21 indicators are presented related to the SO. IRs are not considered in this example. However, seven indicators have been selected to track the interventions selected for the focus country program. The nine indicators concern family planning, reproductive heath, EPI, pneumonia case management, and HIV prevention. Objectives have been established for each one. The seven indicators will be tracked throughout the project during monitoring and impact evaluation. Although Table 3 uses 18 indicators, in actual usage many more will be included in a baseline assessment to determine project priorities. See Annex 1 for other illustrative indicators.

TABLE 4: AN EXAMPLE OF REPORTING THE USE OF BASELINE DATA TO SELECT PROJECT INTERVENTIONS AND TO ESTABLISH OBJECTIVES[7] USING INDICATORS OF NETWORKS' STRATEGIC OBJECTIVE

STRATEGIC OBJECTIVE: TO INCREASE THE USE OF FP/RH/CS/HIV SERVICES THROUGH THE ENHANCED CAPACITIES OF PVO/NGO NETWORKS					
Indicator Type	**Service Type**	**Indicator**	**Baseline**	**Selected Intervention = X**	**Objective for Planning Purposes**
Core	**FP/RH**	CPR (or % women 15-49 currently using contraception by method) (stratified by new/old acceptors, and 0, 1, 2 parity)	3%	X	10%
Untested		% of most recent birth spaced >23 & >35 months among women with children 0-23 mo.	2%	X	10%
Untested		% women with children 0-23 months whose most recent birth was unintended	10%	X	30%
Priority		% births of women with children 0-23 months attended by appropriately/medically trained health personnel	5%	X	25%
Priority		% women <24 years of age who had a first birth before the age of 20 years.	85%	X	55%
Priority		% of women with children 0-5 months consciously & correctly using LAM as a FP method	25%	--	--
Priority	**CS: DCM**	% children 0-23 months who have had diarrhea in the past two weeks who received same or increased fluids (including breast milk) (case stratified)	50%	--	--
Core		% children 0-23 months who have had diarrhea in the past two weeks who received ORS (as per the definition used by the national diarrhea disease control program) or a recommended home fluid (case stratified)	50%	--	--
Priority		% children 0-23 months who have had diarrhea in the past two weeks who received the same amount or more food (case stratified)	50%	--	--
Priority	**CS:BF**	% infants 0-11 months who were put to the breast within 1 hr after birth (and by interval of time after birth)	3%	--	--
Priority		% infants 0-5 months exclusively breastfed (using recall of mothers with children 0-5 months)	25%	--	--
Core		% infants 6-9 months who were given breast milk and solid foods (using 24 hour maternal recall)	25%	--	--
Core	**CS: EPI**	% mothers with children 12-23 months receiving TT2 during/before pregnancy	4%	X	34%
Priority		% children 12-23 months vaccinated with measles vaccine prior to age 1	80%	--	--
Priority		% children 12-23 months vaccinated with DPT3, OPV3, measles vaccine prior to age 1	80%	--	--
Priority		% children 12-23 months vaccinated with DPT3 prior to age 1	80%	--	--
Priority	**CS: PCM**	Annual ratio of number of pneumonia cases of children 0-23 months treated by the health system, by the number of children 0-23 months in the project area	4%	X	34%
Priority	**CS: Vit A**	% children 12 -23 months in Vit. A deficient areas receiving 2 Vit. A supplements within past 12 months (or 1 IM high dose in last 6 months)	0	--	--
Untested	**CS: Nutrition**	Mid-year ratio of the number of prepackaged monthly iron/folate doses provided/dispersed by the number of pregnant women in the project area	NA	--	--
Priority	**HIV**	% women 15-49 years who used a condom in their last sexual contact	15%	X	30%
Priority		% men 15-49 years who used a condom in their last sexual contact	25%	X	40%

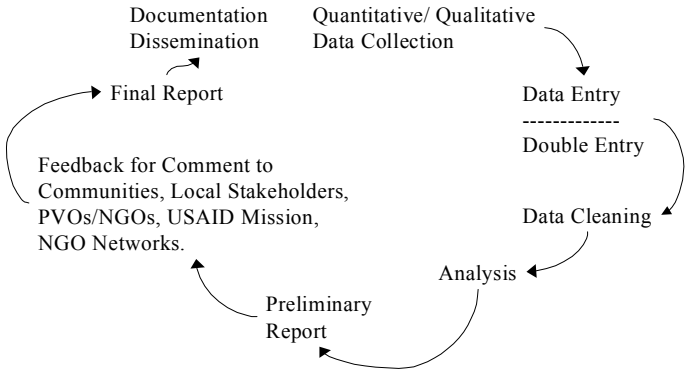
[7] All *objectives* mentioned in this document are for planning purposes only.

D. Flow of Data, Data Processing, and Reporting

Data collection, its processing, and reporting will have a characteristic flow, regardless of whether data are collected in baseline surveys or subsequently during monitoring and evaluation. Data will be entered and *cleaned* over a two-week period. Analysis and preliminary report generation will take place during a second two-week period. The report will be shared locally with all project participants listed below. The purpose is to obtain their comments and insights so as to improve the contents of the final report. A final report will be produced locally and conclude with the NMU concurring with its contents. Figure 4 displays this flow commencing with data collection and continuing on to:

1. data entry and double data entry;
2. data cleaning;
3. data analysis;
4. preliminary report preparation;
5. feedback to project communities, local stakeholders (e.g., ministry of health, health facility staff, other private and public section partners), PVOs/NGOs working in the network, the USAID mission, and the *Networks* project team (the purpose is obtain comments on initial findings);
6. preparation of the final report with the NMU concurring with its contents; and
7. dissemination of the report to stakeholders, PVO/NGO participants, and the USAID mission with the concurrence of the *Networks* project team.

Figure 4: Flow of Data, Data Processing and Reporting at the Local Level



E. Program Monitoring and Process Evaluation

Monitoring will regularly track project performance and provide objective information on a select set of indicators. A main purpose of local monitoring is to aid local organizations manage their programs. Monitoring will focus on each of two levels—institutional changes among the PVO Partners and the status of focus country activities. As discussion of institutional monitoring of PVO Partners is pending the completion the organizational self-assessment, this document will concern focus country monitoring only.

In focus countries, we will track the progress of project interventions in three ways:

- tracking project indicators including core, mission, the *Networks* project, and project specific indicators (e.g., derived from the KPC) using population based sampling, health facility assessments, and other procedures that can be implemented in the PVOs/NGOs participating in the project;
- tracking inputs and outputs provided by PVOs/NGOs/networks using local MIS; and
- carrying out qualitative assessments (e.g., focus groups) to obtain local feedback from communities and health providers to assess the project's status.

As discussed above, the interval at which these data are collected is contingent on the needs of the mission, G/PHN, and the PVOs/NGOs/networks. We expect that mission indicators will be measured at annual intervals. Depending on their overlap and the feasibility, core and NMU priority indicators could be collected at the same time (see Annex 1 for an illustrative set of core and NMU priority indicators).

Monitoring focus country indicators may also take place at annual intervals. This issue will be decided on a case by case basis with G/PHN. Typically in a four-year PVO child survival project, the formal monitoring of the project takes place 1.5 years after the interventions commence. A third measure is taken two years later in a final evaluation. These procedures will be adopted to serve as a minimal data collection schedule for the *Networks* project M&E. However, they will be adapted to fit the project context.

Monitoring activities will require several data collection activities including:

- sampling of the project's catchment areas using methods such as the 30-cluster technique and Lot Quality Assurance Sampling (LQAS);
- qualitative studies of a selection of communities and health workers;
- health facility assessments at the level that is pertinent to the intervention (for example, if pneumonia case management is an important intervention, then health centers would have to be included in the monitoring);
- reports from the PVO/NGO/networks MIS to determine the extent to which inputs and outputs have been received and distributed to participating network members;
- synthesizing these results in a status report with recommendations for planning the subsequent year's work plan; and
- involving the participation of an external technical advisor in all evaluations to lead PVOs/NGOs/networks through the assessment and produce a report.

Table 5 demonstrates how monitoring results can be aggregated for reporting purposes. The Table shows the progress made in a hypothetical focus country from the time the baseline was taken. It also indicates the objective to be reached by the end of the project.

TABLE 5: AN EXAMPLE OF REPORTING MONITORING AND EVALUATION RESULTS TO COMPARE WITH BASELINE RESULTS AND PROJECT OBJECTIVES FOR SEVEN INDICATORS OF THE NETWORKS' STRATEGIC OBJECTIVE					
STRATEGIC OBJECTIVE: TO INCREASE THE USE OF FP/RH/CS/HIV SERVICES THROUGH THE ENHANCED CAPACITIES OF PVO/NGO NETWORKS					
Indicator Type	**Service Type**	**Indicator**	**Baseline**	**Monitoring**	**Objective for Planning Purposes**
Core	**FP/RH**	CPR (or % women 15-49 currently using contraception by method) (stratified by new/old acceptors, and 0, 1, 2 parity)	3%	4%	10%
Untested		% of most recent birth spaced >23 & >35 months among women with children 0-23 mo	2%	5%	10%
Untested		% women with children 0-23 months whose most recent birth was unintended	10%	15%	30%
Priority		% births of women with children 0-23 months attended by appropriately/medically trained health personnel	5%	7%	25%
Priority		% women <24 years of age who had a first birth before the age of 20 years	85%	70%	55%
Core	**CS: EPI**	% mothers with children 12-23 months receiving TT2 during/before pregnancy	4%	20%	34%
Priority	**CS: PCM**	Annual ratio of number of pneumonia cases of children 0-23 months treated by the health system, by the number of children 0-23 months in the project area	4%	10%	34%
Priority	**HIV**	% women 15-49 years who used a condom in their last sexual contact	15%	20%	30%
Priority		% men 15-49 years who used a condom in their last sexual contact	25%	30%	40%

Process evaluation, as defined in an earlier section, will assess institutional changes in the PVO Partners and networks intended to improve their capacity to provide FP/RH/CS/HIV services. These assessments will be a narrative reporting of the actions taken by them including, for example, policy changes, resource allocation, capacity enhancement, personnel changes, strategic planning events related to FP/RH/CS/HIV, and the like.

Process evaluation will also examine operational problems detected through monitoring. For example, if *use, knowledge, quality, access, or availability* indicators have lower than expected values, process evaluation will determine the underlying reasons for not reaching a performance standard. Such information will then be used to aid managers in determining how to ameliorate the detected problems and improve their organization's capacity to provide FP/RH/CS/HIV services. Diverse methods can be used in a process evaluation, such as systems analysis, focus groups, and other nominal group methods. A specific method can be chosen once the nature of the problems is known. Such assessments could occur in PVO headquarters or field offices, in government organizations, in communities, and/or in private-sector institutions.

Once the monitoring is completed, the assessment team will launch a process evaluation to develop recommendations to improve the project's interventions.

F. Impact Evaluation

Impact evaluation as used in the *Networks* project refers to a final assessment of the achievements in a focus country or among PVO Partners making institutional changes. The *Networks* project's impact evaluation will strive to separate project influences from external influences.

In this project **impact evaluation** will use the same procedures as applied in program monitoring. The purpose, however, will be different. Monitoring was concerned with tracking progress and making adjustments in the program design. Impact evaluation determines whether program objectives, agreed upon during the o*rganizational self-assessment* and during the planning of focus country interventions, have been reached. It occurs at the end of the *Networks* project or of a focus country activity to judge whether the objectives have been reached. It also recommends additional adjustments to PVOs/NGOs/networks both to sustain achievements and to ameliorate problems detected during the final evaluation.

Table 6 gives a hypothetical example of how the final evaluation in a focus country can be reported along with its objectives, baseline, and monitoring data.

TABLE 6: AN EXAMPLE OF REPORTING MONITORING AND EVALUATION RESULTS TO COMPARE WITH BASELINE RESULTS AND PROJECT OBJECTIVES FOR SEVEN INDICATORS OF THE NETWORKS' STRATEGIC OBJECTIVE

STRATEGIC OBJECTIVE: TO INCREASE THE USE OF FP/RH/CS/HIV SERVICES THROUGH THE ENHANCED CAPACITIES OF PVO/NGO NETWORKS

Indicator Type	Service Type	Indicator	Baseline	Monitoring	Final	Objective for Planning Purposes
Core	**FP/RH**	CPR (or % women 15-49 currently using contraception by method) (stratified by new/old acceptors, and 0, 1, 2 parity)	3%	4%	6%	10%
Untested		% of most recent birth spaced >23 & >35 months among women with children 0-23 mo.	2%	5%	8%	10%
Untested		% women with children 0-23 months whose most recent birth was unintended	10%	15%	20%	30%
Priority		% births of women with children 0-23 months attended by appropriately/medically trained health personnel	5%	7%	20%	25%
Priority		% women <24 years of age who had a first birth before the age of 20 years.	85%	70%	60%	55%
Core	**CS: EPI**	% mothers with children 12-23 months receiving TT2 during/before pregnancy	4%	20%	40%	34%
Priority	**CS: PCM**	Annual ratio of number of pneumonia cases of children 0-23 months treated by the health system, by the number of children 0-23 months in the project area	4%	10%	20%	34%
Priority	**HIV**	% women 15-49 years who used a condom in their last sexual contact	15%	20%	30%	30%
Priority		% men 15-49 years who used a condom in their last sexual contact	25%	30%	40%	40%

G. Relationship of Baseline Assessments, Monitoring and Process Evaluation, and Impact Evaluation

The following table puts into a capsule the relationship between baseline assessments, monitoring and process evaluations, and impact evaluations. The table shows their most basic purposes and the approximate time in the project they are carried out.

TABLE 7: MATRIX INDICATING THE RELATIONSHIP BETWEEN BASELINE, MONITORING AND EVALUATION ACTIVITIES FOR THE SO AND IR1-4

	SO	IR1	IR2	IR3	IR4
Baseline: Carried out prior to development of a detailed implementation plan	**Purpose:** Establish initial values of client behavior and service use; to provide useful information for program planning	**Purpose:** Establish initial values of institutional capacity indicators in areas that PVO Partners and local NGO networks agree to improve upon; to provide useful information for program planning	**Purpose:** Establish initial values of knowledge in communities in the NGO networks catchment area; to provide useful information for program planning	**Purpose:** Establish initial values of indicators of sustainability, quality, access, and availability of services provided by CHWs, CBDs and other local health workers; to provide useful information for program planning	**Purpose:** Establish initial values of indicators of sustainability, quality, access, and availability of services provided by health facilities; to provide useful information for program planning
Monitoring and Process Evaluation (Regular, and Mid-Term): Carried out annually or at the half-way point in a focus country or of the *Networks* project	**Purpose:** To assess the progress of the project, to diagnose implementation problems, and to make changes needed to improve progress				
Evaluation: Carried out at the end of the focus country or *Networks* project	**Purpose:** To assess the accomplishments of the project and to make recommendations for post-project activities of stakeholders				

H. Other Sources of Data

While the project itself will collect data, other sources of data will also be used. Examples of data sources include but are not limited to: population based surveys, other health facility assessments, other community health worker assessments, Logistics Management Information Systems, Demographic and Health Surveys, management information systems of PVOs/NGOs working in a *Networks* project activity, ministry of health reports, UNICEF and WHO reports, and other data available through the missions and G/PHN.

I. Assessing the Development Hypothesis

The Development Hypothesis for NGO Networks for Health is:

> If PVO/NGO capacity in providing FP/RH/CS/HIV services is enhanced and if PVO/NGO networks are created and/or strengthened, there will be a significant and sustainable increase in the quality, access, and use of health information and services.

The M&E Plan will strive to analyze this hypothesis during program monitoring and impact evaluation by:

- carefully tracking indicators that measure progress in the strengthening of the PVO Partners, PVO/NGO networks, and their members in focus countries, and
- assessing the relationship of institutional-strengthening measures with increases in quality, access, availability, and use of FP/RH/CS/HIV information and services.

While we anticipate technical issues related to imputing causality, our primary interest in M&E is to be pragmatic by understanding whether the project's technical assistance to PVOs and health care delivery systems does translate into increased use of information and services by clients. The development hypothesis can be explored, however, by ensuring that credible data are obtained for assessing the SO and IRs 1-4.

V. CONSTRAINTS AND MEASUREMENT ISSUES

Although organizational development indicators are included in Annex 1, most of them, as already mentioned, will be formulated by the PVO Partners themselves. The Senior Capacity Building Advisor is currently developing an **organizational self-assessment tool** that the PVO Partners will use to identify how to improve their organizations during the project. Part of the self-assessment process involves developing indicators that all PVO Partners agree to and use. As the indicators are yet to be identified, this document cannot discuss data collection methods for this part of the project. However, it will probably involve focus groups and the PVO Partners reporting organizational data on structured forms.

Data collection for many quantitative indicators is affected by a technical issue, namely, that PVOs tend to use small sample sizes that have confidence intervals as large as $\pm$10%. A problem arises when an indicator requires that only a small part of the sample be analyzed using people from a narrow age stratum. This circumstance creates a measure with large confidence intervals. For example, an assessment of diarrhea case management practices by mothers uses a sample of women with children aged 0-23 months. Let's assume that the sampling procedure resulted in a confidence interval of $\pm$10%. If the same sample was to be used to assess measles vaccination coverage, the 12-23 month age stratum would be used resulting is a measure with a confidence interval of about $\pm$12% to $\pm$14%.[8] If exclusive breast feeding was assessed using the 0-5 month age stratum, the aggregate result would have a confidence interval of $\pm$17% to $\pm$20%. Wide confidence intervals render point estimates meaningless.

The M&E Plan will work with focus country teams to develop sampling strategies that overcome this constraint and that produce reliable data from the baseline through to the impact evaluation.

Since the PVOs/NGOs will collect the data themselves in the focus countries, we have tended to select indicators that use the same *universe* for sampling. For example, most indicators presented below can be measured by sampling women with children 12-23 months of age. However, a few indicators monitoring breastfeeding, and family planning need data from other sampling universes (e.g., infants 0-5 months, infants 6-9 months, women 15-49 years). Whenever a second universe is needed, it is necessary to take more than one sample (which might double data collection efforts) or to increase the original sample size.

The former solution may be pragmatic if an efficient sampling design is developed. However, neither solution has typically been selected. The sample is frequently stratified and the decreased precision is accepted. Because few individuals are within each age stratum, measures have wide confidence intervals as already explained. For this reason this M&E plan has tended to select indicators that can be measured with a single universe (e.g., women with children 12-23 months). When additional universes need to be sampled they are so noted (e.g., infants 0-5 months, infants 6-9 months, women 15-49). The issue of how to perform sampling of multiple universes is discussed in a later section.

Another constraint is that not all FP/RH/CS/HIV interventions will be implemented in every focus country. Typically, three to five interventions will be selected for implementation in a focus country. Therefore, indicators pertinent to those interventions will be monitored there. We expect that few indicators will have data collected in all focus countries. This was demonstrated in Table 1.

[8]The difference in confidence interval estimates depends on whether a cluster sample is used with 210 or 300 observations.

Not all indicators can be considered in this M&E Plan. Some indicators will arise due to their salience in a particular country. For example, post abortion care may be extremely important in a focus country and be of interest to report to the mission and G/PHN.

Another possible constraint is that PVOs are currently in the process of reviewing the KPC survey questionnaire for monitoring FP/RH/CS/HIV programs. This review is being carried out by the M&E working group of the Child Survival Collaborations and Resources Group (CORE) and the Child Survival Technical Support Project (CSTS). As the PVO Partners are also a part of CORE and work with CSTS, the project will coordinate with both organizations to advance the development of a definite list of indicators and sampling procedures.

A final constraint concerns assessing the technical quality of an intervention. This is difficult to measure as it typically requires observing service delivery being provided to a client. Such assessments are often better carried out when planned independently of the regular monitoring of indicators. This issue will be discussed again in the data collection section of this document. However, the *Networks* project intends to use the Health Facility Questionnaire [34], LQAS observation studies [4], and Situation Analysis [32] for carrying out quality assessments.

VI. SAMPLING METHODS AND DATA COLLECTION

Sampling designs will be developed that are most appropriate for the conditions found in focus countries, and which provide the data needed to measure the indicators. If possible, the *Networks* project will use the sampling procedures preferred by PVO/NGO/network participants. However, if these procedures are not viable for the project or do not result in reliable data, other choices will be advanced.

Both quantitative and qualitative data will be collected. The former will use sampling designs discussed in this section that are based on statistical principles. The latter also use a sampling design, albeit they are not based on statistical calculations. Typically, qualitative methods select representatives of key stakeholders for interview or inclusion in a focus group. These methods are not discussed here.

Not all quantitative data need be collected with the use of sampling designs. For example, *access and availability* data routinely collected by Logistical Management Information Systems (LMIS), *training programs, and financial systems* do not use sampling. Typically, assessments of *use/practice, knowledge, and quality* do use it. All assessments requiring sampling are considered in the following section concerning the measurement of *use and practice*.

A. Knowledge, Use, and Practice

A1. The 30-Cluster Survey

PVOs have used for many years the 30-cluster survey methodology for gathering data with the KPC questionnaire. This method is an adaptation of the Expanded Programme on Immunization (EPI) Cluster Sampling method that takes observations from seven consecutive houses in each of 30 systematically selected clusters. This 210 observation sample results is a coverage proportion that is within 10 percentage points of true coverage 95% of the time. Recent improvements have increased the number of observations to 10 per cluster. The sample of 300 is thought to be more versatile since when variables are stratified, sufficient data still remain in each stratum to produce a reliable result.

The major benefits of the cluster survey method are that it is well known, rapid, and reasonably precise for measuring a large catchment area. Its disadvantages are:

- While the total sample is representative of the large catchment area from which it is taken, each individual cluster is not representative of the community from which it is taken. As a result the data cannot be used to measure knowledge, use, or practice in different geographical locations within a catchment area.
- Although PVOs do stratify cluster sample data, we do not have a clear understanding of the statistical principles that are violated by doing so. As a result, measures calculated with the stratified data may be incorrect as well as having wide confident intervals.
- Because cluster surveys measure large catchment areas, they tend to be collected by a special data collection team. As a result, the people who are the end users of the data often do not participate in the data collection or analysis, and when they do, it may be with a large time investment.

An important use of the cluster sample method will be to collect baseline data. The assumption for using this method is that all areas participating in the network have the same levels of low coverage. The

baseline will be collected shortly after the network members have agreed to work in the project's activities. Baseline data provide invaluable information for program planning, and establishing coverage targets for the participating organizations to achieve by the end of the project.

This sampling method can also be used at two-year intervals to monitor progress made toward achieving objectives. We expect that in some focus countries cluster samples will be used for monitoring and evaluation.

A2. LQAS

LQAS is an industrial quality-control sampling procedure that uses small sample sizes to minimize the data collection effort. This sampling procedure can be used to determine whether a certain expected *proportion* (the objective) of a target population has received an intervention. For example, LQAS can determine with a small sample whether at least 50% of women age 15-49 years know at least two modern contraceptive methods, or 70% of mothers with children under two years of age can prepare and use ORT, or 80% of children 12-23 months are vaccinated against measles. It also detects areas in which an unacceptably small proportion is covered by the intervention. With LQAS the cut off for an unacceptably low proportion is usually set 30% below the expected proportion. In the above examples, unacceptably low proportions would be 20%, 40%, and 50%, respectively. In brief, LQAS detects areas that are at the ends of a distribution of coverage, namely, whether coverage is adequate or unacceptably low.

By assessing whether a performance standard is reached rather than measuring the exact proportion, the binomial formula can be used to calculate the sample size. This seemingly small shift in approach to assessment has a rather large impact on sample size. The sample sizes we would use in the project may be no larger than 19 infants, children, women, or men.

For project monitoring and carrying out day-to-day management decision making, this type of quality control information is what is needed because it shows the areas with the lowest knowledge, use, and practice that need particular attention. The areas need attention because they are the communities in which women and children are at the highest risk of a health problem. There is also a benefit of identifying those with the best performance for these are the areas from which trainers can be taken to provide technical assistance to areas not performing as well. These high quality performers are the *positive deviants* that can be used to support project supervision and management.

In this project, LQAS can be used as follows: In any focus country, the network catchment area will probably be divided into management units. In a hypothetical example, assume that seven PVOs and large NGOs participate in the network and have management responsibilities for smaller NGOs working with them. Therefore, assume that the entire project area is divided into seven catchment areas. LQAS can be used to assess knowledge, use and practice in each of the seven catchment areas with a sample size as small as 19 women or children in the specified client age group. The sensitivity and specificity would be about 92% for judging each catchment area. When LQAS data from the seven catchment area are pooled they could result in a point estimate with a confidence interval of about $\pm$9%.

The costs associated with LQAS may be lower than other sampling methods depending on how data are collected. A comparative assessment of LQAS and EPI cluster sampling revealed that each resulted in similar judgements about coverage in a catchment area. If a single team is organized at a central level for data collection, then LQAS is more expensive to use than EPI cluster sampling. However, if data are

collected by a decentralized team of health workers who work in the area where the data are collected and analyses will be used, then LQAS is much less costly than EPI cluster sampling [42].

Cost analyses of an application in Costa Rica carried out on a national level revealed that a decentralized collection of LQAS data by health workers would cost about $9 (1999 dollars) per observation, whereas vertically organized data collection teams would cost a minimum of $27 (1999 dollars) per observation [4]. PVOs in the CORE Group during their annual conference estimated that an EPI cluster sample cost between $4,000 and $5,000 to carry out.

Because of its relevance to this project, LQAS is explained in more detail in Annex 2. Annex 5 contains a new LQAS Table for use by field workers. It reduces the multiple LQAS probability tables [4] into 1 Table which can be used by a field worker to select a sample size and decision rule for most coverage thresholds.

A3. Sampling in Focus Countries

One of two designs can be used:

1. a cluster survey carried out in the project catchment area to measure baseline, midterm, and final evaluation values of indicators, and
2. a cluster survey carried out to establish a baseline in the entire catchment area, and then LQAS carried subsequently in each PVO/NGO catchment area.

The second option is preferable since the data can be rapidly gathered and used locally. It can also track progress in different parts of the project area. Although there are other sampling options, the two mentioned above are the recommendations of this M&E Plan.

A4. Sampling Multiple Universes

Many methodological issues will be considered as the project progresses. Not all of them can be addressed now. Therefore, the M&E Plan will be modified if circumstances require it.

All sampling designs identify the characteristics of the people to be included in the sample. These characteristics define the sampling universe from which people can be selected for sampling. For example, if one indicator requires information from mothers with children 12-23 months of age, and another requires responses from adult men, one could argue that data ought to be drawn from these two separate universes (i.e., mothers with children of the appropriate age range, and adult men). An alternative strategy is to select a larger sample from one universe that is defined broadly so that both the mothers and men are included in it. This latter strategy has been difficult for PVOs to carryout since they tend to use small sample sizes.

As mentioned in an earlier section, the number of sampling frames will be kept to a minimum, but they will be appropriate for the intervention being monitored. As displayed in Table 1 and in Annex 2, the sampling frames needed to assess the illustrative indicators include:

- women with infants 0-11 months and women with children 12-23 months (either considered as one or two universes depending on the intervention being assessed),

- women with infants 0-5 months and women with infants 6-11 months (we will consider as a single universe),
- women 15-49 years, and
- men 15-49 years.

All of these universes could be sampled simultaneously, but design issues need to be carefully assessed first as an operations research study.

A5. Operations Research of Sampling

The operations research question asks whether it is feasible for local field workers to sample multiple universes simultaneously. The operations research will be carried out to collect information for interventions already selected in a specific focus country.

The strategy, which could be applied to either the cluster or the LQAS method, is as follows.

- An interviewer will carry four short questionnaire modules corresponding to the four universes. Each module is color coded to avoid confusion. The longest one will be for mothers with children 12-23 months, as they answer the largest number of indicator questions.

- When any household is selected as a potential sampling element, the interviewer determines which universes reside there. The interviewer selects all possible individuals to interview.

- For universes not present, the interviewer (using a systematic selection rule) goes to the next household (and continues to do so). Once data are collected for all four modules the next sampling point can be visited.

In summary, a single sampling point can be used to identify multiple universes in adjacent households. However, as the number of universes increases, the operation becomes more complex. Because not all interventions will be implemented in all focus countries, such a complex sampling design will probably be used infrequently. Nevertheless, operations research is needed now to determine the technical feasibility of this plan.

The proposed plan may be feasible. The single most costly step in sampling is the travel from one sampling point to the next. If one can sample multiple universes from a single starting reference point, costs may be kept lower and the interviewers may be amenable to the carrying out the extra work.

A6. Data Collection Schedule

At a minimum sampling indicators will occur three times in the life of a focus country project: at baseline, between 18 and 24 months of project start-up, and at 48 months. Ideally, if LQAS methods are used, data could be collected annually. This approach will give project managers a continuous flow of information that can be used for improving the project.

Access and availability data, which should be available through the LMIS and the local project MIS, will be reported on a biannual basis to the NMU and on an annual basis to the mission.

The data collection schedule can also be examined as an operations research question. It would be worthwhile to determine whether management units that have annual sampling schedules perform any differently from those using a two-year sampling schedule.

B. Quality and Rapid Assessment

Agencies are continuously improving instruments. The *Networks* project is committed to introducing new methods into the project as they are developed and demonstrate advances in the state of the art. This section refers to four types of studies to be carried out during the life of the project:

- Health Facility Assessment;
- Situation Analysis;
- Systems Analysis; and
- Technical Quality Assessment.

A Health Facility Assessment has been developed by BASICS, MEASURE, and UNICEF. It will be applied to a selection of reference facilities, basic and comprehensive Essential Obstetric Care (EOC) facilities, and hospitals in the network's catchment area. The instrument produced by BASICS is currently under revision by BASICS and the M&E Working Group from CORE. The Situation Analysis instrument developed by the Population Council will be used to assess family planning service provision facilities.

Neither instrument is explicitly designed to assess EOC facilities and may need modification for this assessment. This activity will be carried out under the guidance of the project's Safe Motherhood Advisor.

Both the Health Facility Assessment and the Situation Analysis instrument are comprehensive and involve assessing equipment, supplies, clinical service delivery, health provider knowledge, and user satisfaction. Because they require a considerable investment of time and specialized knowledge, they will be applied by trained staff members of the in-country PVO Partners and network members.

The Technical Assessment of Quality instrument uses LQAS principles to assess the technical skills of service providers. It requires observing a health worker (either in the community or in a health/family planning facility) six times. Should the health worker perform any task incorrectly more than once, s/he is judged to have substandard skills. LQAS is 97% specific for identifying service providers who perform well. It also provides useful information for developing refresher training courses and continuing education curricula since it identifies the specific technical problem health workers have [4, 54]. The project will benefit from having all of these methods available for application. As stated above, the methods to be selected will be those most appropriate for the context.

C. Conclusion

The M&E principle stated in the *Networks* project Workplan is that M&E data should aid managers at all levels to make informed decisions. This principle can be realized best if those using the information are also involved in data collection and analysis. Further, experience tells us that data collection should be minimal and yet produce accurate information.

The sampling design strategy for the *Networks* project M&E Plan keeps the data collection process as decentralized as possible, so that information can be gathered about each management unit in a focus country network. We advance the idea of using small rapid sampling approaches such as the cluster method or LQAS. The former may not be appropriate since it will not provide information at the level of the management unit. The latter approach should be tested in the *Networks* project because it is well suited to address project specific management issues. LQAS potentially can be effective for:

- independent assessment of multiple management units in a focus country network,
- use by local health workers at a decentralized level,
- precise data collection that can be used for reporting at the national and international level,
- data stratification while maintaining a precise indicator measure, and
- PVO/NGO to continue using the M&E system after the project ends.

It can also have a low cost. The *Networks* project team will decide on the propitious location for such a test to take place. This discussion of the possible application of LQAS in the project coincides with discussions taking place in the PVO community about using LQAS for assessing their own programs independently of the *Networks* project. Several PVOs in the CORE Group have expressed an interest in field testing the method in their own programs at their own cost, but with technical assistance from the project's Senior M&E Advisor. These field applications could provide invaluable information that could expedite implementation of an M&E system in the project's focus countries.

VII. ACTIVITIES

All of these activities are aimed ultimately to:

- increase the capacity of PVOs to carry out M&E of their programs,
- increase understanding of how to develop networks, and
- lead to an effective project reporting system.

The following sections describe activities that are a part of the M&E Plan.

A. Updating the KPC Questionnaire

Several PVOs and CAs are in the process of developing indicator lists and sampling designs for community based project assessment. Because a *Networks* project operational principle is to not *reinvent the wheel*, the project will benefit from the work of other agencies. During December 1998 through September 1999, the CORE Group and CSTS are updating the KPC questionnaire. As the KPC questionnaire will be main survey instrument for the project, the revision will directly contribute to the project. The Senior M&E Advisor is attending meetings to the CORE Group to participate in the updating procedure.

The procedure used by CORE and CSTS to revise the KPC is to:

- synthesize benefits and deficiencies of the instrument recognized by the PVO users and by BHR/PVC;
- circulate the KPC to each technical working group in CORE (i.e., reproductive health, behavior change and communication, nutrition, quality assurance, and integrated management of child illness) to update relevant sections of the instrument;
- seek technical assistance from CAs and G/PHN as needed; and
- seek approval for the update from CORE membership during the Annual PVO Membership Meeting of CORE in September 1999.

This instrument once approved will be used by the *Networks* project in focus countries and in TOST workshops. It will be adapted to local conditions when needed. Additional indicators will be added to it to address local interests as well as to satisfy reporting requirements of the mission and G/PHN. As the *Networks* project team has no management role in the CORE Group, the project will aid it to reach their deadline for revising the KPC instrument.

B. Defining Core Indicators

As discussed in section II. E *Final Core Indicator Selection, Networks* project core indicators will be selected and approved by G/PHN by May 1, 1999.

C. Establishing Operations Research Activities about Sampling

As discussed above, several pressing sampling issues will be addressed prior to carrying out surveys in focus countries. An agenda for this work will be developed by April 1. In summary they include:

- determining the error associated with stratifying cluster sample data by age cohort (this work will be carried out in association with CSTS and MEASURE);
- cost projection analyses of using cluster and LQAS methods for data collection; and
- creation of a case book of LQAS applications by PVO collaborators in multiple country sites using configurations that will approximate conditions the *Networks* project expects to encounter in focus countries.

D. Data Base Development

The Senior M&E Advisor will develop two databases to correspond to the:

- institutional development of PVO Partners, and
- work in focus countries.

Each database will have sub-databases containing essential quantitative and qualitative data.

A quantitative sub-database will maintain baseline, monitoring, and impact evaluation data for all indicators used for institutional assessments and focus country programs. These indicators will include core indicators, indicators used by the *Networks* project staff to manage the project (see Annex 1), and indicators used by PVOs/NGOs/networks in focus country program management. Community based data and health facility data will be organized in separate databases.

A qualitative sub-database will contain information gathered using nominal group methods (such as focus groups) to analyze the condition of the PVO Partners and the focus country activities. The qualitative database will store conclusions and findings from these assessments in easily retrievable manner by dimensions such as: PVO/NGO, intervention, year, health facility, geographical region, and nation.

The *Networks* project anticipates using a fourth generation computer language for developing the databases. The Senior M&E Advisor will review existing options used by CAs, universities, and international organizations that maintain large quantitative and qualitative databases. Assistance will be sought from MEASURE to develop both databases. This activity will take a substantial amount of time and will be completed by June 2000, although prototypes will be developed and used during the interim period.

E. Training Workshops

All M&E activities will be preceded by a training workshop for the PVO Partners, focus country network members, and/or enumerators. The workshop for the baseline survey was referred to earlier as the Training of Survey Trainers (TOST) workshop. The Senior M&E Advisor will host the one two-week workshop that includes the baseline survey in the focus country. He will seek collaboration with CSTS for this purpose, as that project will also carry out TOSTs from time to time. Ideally, the workshops of both organizations will be coordinated. The TOST will:

- clearly state the purpose of the assessment;
- aid participants to develop an operational knowledge of sampling methods;
- review and modify the KPC survey instrument to ensure that it is appropriate for the local context;
- introduce core indicators and explain their importance to the project;
- aid participants to develop an operational knowledge of how to use qualitative methods for monitoring FP/RH/CS/HIV activities;
- collect baseline data using the KPC survey;
- develop a qualitative structured focus group instrument for use in the participants' country;
- train participants to train others to collect survey data;
- develop a data collection plan of action for each participating PVO/NGO/network;
- develop a data analysis plan for the PVO/NGO/network;
- train participants to analyze the KPC survey data using EPI-INFO and with paper and pencil; and
- introduce the importance of feeding back to communities quickly the M&E results produced in baseline surveys and in subsequent M&E.

A shorter, one-week workshop will be carried out prior to monitoring and impact evaluation. To the extent possible, all focus country networks will be trained to manage the collection and analysis of monitoring and evaluation data. The Senior M&E Advisor will provide technical assistance and ensure quality control of the actual implementation of these methods in the focus countries.

F. M&E Capacity Building of PVO Partners

The *Networks* project will contribute to the development of M&E activities among the PVO Partners. The Senior M&E Advisor will form a working group of the M&E advisors from each PVO Partner. The group will be invited to participate in developing the *Networks* project M&E system. The advisor will also encourage partners to bring technical problems from their own PVO for discussion in a M&E working group. He will also provide technical assistance to PVO Partners concerning M&E problems occurring during implementation of their own or the project's M&E plan. The project will not attempt to replace any PVO Partners' M&E system, but rather to provide support to the extent that it is compatible with the project's activities.

The *Networks* project takes the view that the PVO Partners and focus country network members are responsible for the organization and implementation of the M&E plan. However, these activities will be carried out with the extensive involvement of the Senior M&E Advisor. Therefore, at headquarters and in focus countries the PVO Partners and the network members themselves will take the lead in organizing the data collecting, managing the data collection process, data analysis, and report writing. *Learning by doing* should lead to the development of a close working relationship between the *Networks* project team and our PVO/NGO colleagues.

G. Developing Management Information Systems

An area that typically needs substantial technical assistance in PVO/NGO country offices is the development of a local MIS for monitoring project input, outputs and human resources. As the project monitoring will require these data, it is essential that a simple but effective MIS is established rapidly. The Senior M&E Advisor will work with CAs and independent consultants to develop a generic MIS to monitor, for example:

- essential commodities distributed to health facilities and to health workers;

- management and training activities—e.g., supervision rounds, workshops, community health worker (CHW), and community-based distributor (CBD) training sessions;
- commodities distributed to and interventions carried out for clients in project communities by health workers;
- human resources in PVOs/NGOs/networks working in the project and their location.

The generic MIS will be developed in conjunction with the first focus country project established by the *Networks* project.

VIII. PRESENTATION OF RESULTS

The M&E system will present data in a form that will be readily understandable and useful to PVO/NGO network members, PVO Partners, the *Networks* project team, USAID missions, and G/PHN. This challenge is an important one to address as *Networks*' operating principle is to produce work that is relevant to the field. As a result, the *Networks* project will seek field input when developing a format for presenting M&E results.

The *Networks* project will also field test presentation prototypes both in PVO Partner headquarters and in focus countries. The presentations will be graphic and focus on indicators of highest relevance (e.g., core, priority NMU, and priority country indicators). Work will also be conducted with each PVO Partner to incorporate M&E results into their annual reports and other printed information that circulate to constituents and to the public at large.

The M&E system will also attempt to use Geographic Information Systems (GIS) technology for presenting results. GIS may be highly applicable to the *Networks* project because it will be able to track progress in each management unit catchment area of a focus country. This application could be highly valuable to in-country managers, PVO headquarters managers, the *Networks* project team, the mission and G/PHN. Each of these stakeholders might well find it useful to discern the variation in results taking place throughout a focus country project area.

ANNEX 1: ILLUSTRATIVE INDICATORS

STRATEGIC OBJECTIVE: TO INCREASE THE USE OF FP/RH/CS/HIV SERVICES THROUGH THE ENHANCED CAPACITIES OF PVO/NGO NETWORKS				
DATA SOURCE: A=WOMEN WITH CHILDREN 12-23 MO, B=WOMEN 15-49 YRS, C=WOMEN WITH INFANTS 0-5 MO, D=WOMEN WITH INFANTS 6-11 MO, E=HEALTH FACILITIES, F=LMIS, G=HEALTH WORKERS, H= SEXUALLY ACTIVE MEN 15-49, I=DRUG SELLERS, J = COMMUNITIES				
Indicator Type	**Service Type**	**Indicator**	**Source**	**Universe/Age Stratum**
Core	FP/RH	CPR (or % women 15-49 currently using contraception by method) (stratified by new/old acceptors, and 0, 1, 2 parity)	KPC, LQAS	B (stratified by new/old acceptors, and 0, 1, 2 parity)
Untested		% of most recent birth spaced >23 & >35 months among women with children 0-11 mo.	KPC, LQAS	A, C, D
Untested		% of obstetric complications transferred from the community to the next higher level of care divided (assume that 15% of expected births are complications	CHW & Health Facility Records	B
Untested		% women with children 0-11 months whose most recent birth was unintended	KPC, LQAS	A, C, D
Priority		% births of women with children 0-11 months attended by appropriately/medically trained health personnel	KPC, LQAS	A, C, D
Priority		% women <24 years of age who had a first birth before the age of 20 years.	KPC, LQAS	B
Untested		% deaths of women 15-49 years due to maternal causes (stratified by age: e.g., 10-14 years, 15-19, 20-23)	Health Facility Records, Sister Verbal Autopsy, special OR study	B, E (stratified by age: e.g., 10-14 yrs, 15-19, 20-23)
Priority		% of beds occupied by post-abortion care patients	Health Facility Records	E
Priority		% of women with children 0-5 months consciously & correctly using LAM as a FP method	KPC, LQAS	C
Untested		Average age of onset of first sexual intercourse	Special study	Adolescents 10-19 years
Priority	CS: DCM	% children 0-23 months who have had diarrhea in the past two weeks who received same or increased fluids (including breast milk) (case stratified)	KPC, LQAS	A, C, D (case stratified)
Core		% children 0-23 months who have had diarrhea in the past two weeks who received ORS (as per the definition used by the national diarrhea disease control program) or a recommended home fluid (case stratified)	KPC, LQAS	A, C, D (case stratified)
Priority		% children 0-23 months who have had diarrhea in the past two weeks who received the same amount or more food (case stratified)	KPC, LQAS	A, C, D (case stratified)
Priority	CS:BF	% infants 0-11 months who were put to the breast within 1 hr after birth (and by interval of time after birth)	KPC, LQAS	C, D
Priority		% infants 0-5 months exclusively breastfed (using recall of mothers with children 0-5 months)	KPC, LQAS	C
Core		% infants 6-9 months who were given breast milk and solid foods (using 24 hour maternal recall)	KPC, LQAS	D
Core	CS: EPI	% mothers with children 0-11 months receiving TT2 during/before pregnancy	KPC, LQAS	A
Priority		% children 12-23 months vaccinated with measles vaccine prior to age 1	KPC, LQAS	A

Priority		% children 12-23 months vaccinated with DPT3, OPV3, measles vaccine prior to age 1	KPC, LQAS	A
Priority		% children 12-23 months vaccinated with DPT3 prior to age 1	KPC, LQAS	A
Priority	CS: PCM	Annual ratio of number of pneumonia cases of children 0-23 months treated by the health system, by the number of children 0-23 months in the project area	CHW Records, Health Facilities	E
Priority	CS: Vit A	% children 12 -23 months in Vit. A deficient areas receiving 2 Vit. A supplements within past 12 months (or 1 IM high dose in last 6 months)	KPC, LQAS	A
Untested	CS: Nutrition	Mid-year ratio of the number of prepackaged monthly iron/folate doses provided/dispersed by the number of pregnant women in the project area	CHW Records, Health Facilities	E
Priority	HIV	% women 15-49 years who used a condom in their last sexual contact	KPC, LQAS	B
Priority		% men 15-49 years who used a condom in their last sexual contact	KPC, LQAS	H

IR 1: Sustained PVO Capacity To Provide Quality FP/RH/CS/HIV Services				
Data Source: A=women with children 12-23 mo, B=women 15-49 yrs, C=women with infants 0-5 mo, D=women with infants 6-11 mo, E=Health Facilities, F=LMIS, G=Health Workers, H= sexually active men 15-49, I=Drug Sellers, J = Communities				
Indicator Type	**Service Type**	**Indicator**	**Source**	**Universe/Age Stratum**
Core	Sustainability	Number of country offices of PVO Partners with new or expanded FP/RH/CS/HIV services	Annual PVO reports	PVO Partners
Priority	Sustainability	Number of PVO Partners with a strategic plan for providing FP/RH/CS/HIV services	PVO Reports	PVO Partners
Priority	Sustainability	% change in funding for FP/RH/CS/HIV in each partner PVO	PVO Reports	PVO Partners
Priority	Capacity	Number of PVOs with staff development plans to build capacity in FP/RH/CS/HIV services/programming	PVO Reports	PVO Partners
Priority	Commitment	Partners track at HQ provision of FP/RH services provided by their programs	PVO MIS and M&E system	PVO Partners
Core	Commitment	Number of actions implemented by PVO Partners developed from the organizational self-assessment (Agreed-upon changes will be incorporated here with corresponding indicators stated)	PVO Reports	PVO Partners
Priority	Commitment	Partners who have policy statements to provide FP/RH services	Annual PVO reports, technical bulletins	PVO Partners
Priority	Commitment	Number of PVO Partners' field offices that include FP/RH in their strategic plans	PVO Reports	PVO Partners
Untested	Capacity	Number of technical health staff of PVO Partners with FP/RH skills or qualifications	Training register	PVO Partners

IR 2: Accurate Knowledge and Sustained Behavior Change at the Community Level [9]				
Data Source: A=women with children 12-23 mo, B=women 15-49 yrs, C=women with infants 0-5 mo, D=women with infants 6-11 mo, E=Health Facilities, F=LMIS, G=Health Workers, H= sexually active men 15-49, I=Drug Sellers, J = Communities				
Indicator Type	**Service Type**	**Indicator**	**Source**	**Universe/Age Stratum**
Priority	FP/RH: Knowledge	% women 15-49 who know where to get clinical contraceptives (i.e., injectibles and surgical methods)	KPC, LQAS	B
Core	Knowledge	% women 15-49 who know 3 or more modern methods of contraception, their major contraindications, & how they work	KPC, LQAS	B
Untested	Knowledge	% of women with children 0-11 months who know the optimal birth interval for child survival for project area or country (or when data are not available that the interval is >35 months)	KPC, LQAS	C, D
Core	Knowledge	% adults who know the closest location to have a delivery by a clinically trained practitioner	KPC, LQAS	B, H
Priority	Knowledge	% adults knowledgeable about maternal complications	KPC, LQAS	B, H
Untested	Knowledge	% women aged 15-49 who are knowledgeable about newborn complications (hypothermia, mother/baby skin contact, immediate breast feeding, clean cord care, rapid respiration)	KPC, LQAS	B
Priority	CS:DCM Knowledge	% mothers with children 0-11 months who know how to correctly prepare and use ORT	KPC, LQAS	C, D
Priority	CS:EPI Knowledge	% mothers with children 0-11 who know to take her infant for immunization even when he or she is sick.	KPC, LQAS	C, D
Priority	CS:PCM Knowledge	% mothers with children 0-11 months who know danger signs for pneumonia and to refer their child to a health worker	KPC, LQAS	C, D
Priority	CS: Malaria Knowledge	% women with children 0-23 months who can correctly state danger signs for severe febrile illness, the correct antimalarial drug and dosage, and to refer their child to a health worker	KPC, LQAS	A, C, D
Core	HIV Knowledge	%adults aged 15-49 who cite at least two acceptable ways of reducing risk of HIV infection	KPC, LQAS	B, H
Priority	Knowledge	% adults aged 15-49 who know where to obtain condoms	KPC, LQAS	B, H
Priority	Knowledge	% adults 15-49 who correctly insert condoms on a condom model	KPC, LQAS	B, H
Priority	Knowledge	% adults 15-49 citing 2 acceptable (accurate), gender specific STI symptoms	KPC, LQAS	B, H
Untested	Knowledge	% adolescents who know the risks of a single act of unprotected sexual intercourse (viz., woman becomes pregnant, can become infected with HIV/STI)	Special Study	Adolescents 10-19 Years
Priority	Knowledge	% adults 15-49 correctly citing at least one SDP for care of STIs	KPC, LQAS	B, H

[9] For IR2 *Accurate Knowledge* is measured with IR2 indicators; *Behavior* is measured with SO indicators. For reasons of clarity, all *use and practice* indicators are located under the SO.

IR 3: Expanded, sustained PVO/NGO Networks to provide FP/RH/CS/HIV service delivery center				
Data Source: A=women with children 12-23 mo, B=women 15-49 yrs, C=women with infants 0-5 mo, D=women with infants 6-11 mo, E=Health Facilities, F=LMIS, G=Health Workers, H= sexually active men 15-49, I=Drug Sellers, J = Communities				
Core = Core	**Type**	**Indicator**	**Source**	**Universe/Age Stratum**
Priority	Sustainability	Networks in focus countries have: raised funds independently, developed a strategic 5-year plan, sustainability plan developed, improved their own and NGO staff capacity, developed M&E system for itself and NGO members	PVO/NGO Reports	NGO Network
Priority	Quality	% CHWs reporting $\geq$ 1 supervision visit in last 3 months	CHW Survey	E, G
Priority	Quality	% CHWs or trained medical staff using the appropriate intervention specific technical skills to deliver services to community members	Observation checklists[10]	G
Untested	Quality	% community focus groups satisfied, dissatisfied and mixed with community-based service delivery[11] (intervention specific)	Participatory Learning and Action	J
Priority	Capacity	% CHWs, CBDs and other providers trained in previous 3 yr	Training register	G
Core	Access	% population in focus countries covered by the network with FP/RH/CS/HIV services (To also be used to assess IR 4)	DHS, Census, MOH	project Catchment Area
Priority	FP/RH: Availability	% CBDs in network catchment area with no stockouts of any method/brand in the last 6 months	LMIS	F
Priority	Access	% communities with feasible alarm/transport/referral system in place	Community Survey	J
Priority	Availability	% CHWs, CBDs and other providers in network catchment area who offer LAM according to proscribed protocol	CHW Survey, PVO MIS	G
Untested	Availability	% of CHWs/ TBAs/CBDs who know the optimal birth interval for child survival for project area or country (or when data are not available that the interval is >35 months)	KPC, LQAS	B
Priority	Availability	% of CBDs providing emergency contraception	CBD Records	E
Priority	CS: DCM Availability	% CHWs with no stockouts of ORS in the last 6 months	CHW Survey, PVO MIS	G
Priority	CS:EPI Access	% children 12-23 mo vaccinated with DPT1	KPC, LQAS	A

[10] Where appropriate supervisors who use observation checklists for assessing technical skills will also be supervised to ensure the technical quality of their judgements.

[11] *User satisfaction* qualitative data. The project will not attempt to transform this information into quantitative notation.

Priority	Access/ Demand	drop out rate (DPT1 – DPT3)	KPC, LQAS	A
Priority	CS: PCM: Availability	% CHWs who know SCM to correctly diagnose pneumonia and treat or refer cases	CHW Survey	G
Priority	CS: Malaria Availability	% CHWs who know how to diagnose and treat malaria symptoms with appropriate antimalarials	CHW Survey	G
Priority	CS:Nutrition Availability	% CHWs who know to promote increased feeding during and after illness	CHW Survey	G
Priority	CS:HIV/STI Access	% adults 15-49 with physical, logistical and economic assess to STI services [12]	MOH report, GIS Assessment, Special Study	B, H
Priority	Access	% adults 15-49 correctly citing at least one SDP for care of STIs	KPC, LQAS	B, H
Untested	Access	Number of SDP serving people with AIDS, family members and survivors	Health Facility Assessment	E
Untested	Availability	Number of condoms available for distribution during preceding 12 months divided by population 15-49 years	MOH report, LMIS	F

IR 4: Expanded service coverage through public/private and private/private partnerships				
Data Source: A=women with children 12-23 mo, B=women 15-49 yrs, C=women with infants 0-5 mo, D=women with infants 6-11 mo, E=Health Facilities, F=LMIS, G=Health Workers, H= Sexually Active Men 15-49, I=Drug Sellers, J = Communities				
Core = Core	**Type**	**Indicator**	**Source**	**Universe/Age**
Untested	Sustainability	% 0f PVO/NGO SDPs integrated into national MIS	LMIS	F
Priority	Sustainability	% public partner health facilities in project areas with a cost recovery plan	PVO/NGO Reports,	E
Untested	Sustainability	Number/types of NGO partnerships with public/private sector for delivery of FP/RH/CS/HIV services (MOHs, direct contracts, training of public sector providers, donation of land for clinics) of work, service mix, process for participating in the strategic planning process)	PVO/NGO/MOH Reports	PVOs, NGOs, MOH
Priority	Quality	% health facilities reporting $\geq$ 1 supervision visit in last 3 months	Health Facility	E
Priority	Quality	% health workers working in health facilities who deliver services per the standards of the health facility assessment/situation analysis instrument/other relevant instruments	Health Facility Assessment, Situation Analysis, Technical Quality	G
Priority	Quality	% women/men in exit interviews satisfied with most recent service delivery at the health facility	Exit Interviews	E
Priority	Capacity	% health facilities with one health worker trained in previous 3 yr.s.	Training register	E

[12] *Economic access* will be the focus of a special study or of an OR study rather than being part of the regular monitoring.

Priority	Availability	% health facilities having adequate equipment and supplies to provide quality FP/RH/CS/HIV services per the national standards (intervention specific)	Health Facility Assessment, Situation Analysis	E
Untested	Access	% of obstetric/midwifery providers trained in MVA and who have the appropriate equipment	Health Facility Survey	E
Core	Access	% of the population in network catchment area within "5" km or 1 hour of facilities providing reliable and continuous FP/RH/CS/HIV services (intervention specific)	Health Facility Survey	E
Core	Access	% of network SDPs in the project area providing quality FP/RH/CS/HIV services (stratified by intervention)	Health Workers, LMIS, PVO MIS	G
Priority	FP/RH Availability	% service delivery points (exclusive of CBDs) in network catchment area with no stockouts of any method/brand in the last 6 months	LMIS	F
Priority	Access	% mothers with infants 0-5 months who attended antenatal visits by a clinically trained provider	KPC, LQAS	C
Core	Access	CYP	LMIS	F
Priority	Availability	% facilities with EOC with no shut-downs due to lack of trained clinical staff in the last 6 months.	Health Facilities	E
Priority	Availability	% facilities with EOC with no stockouts in TT, oxytocin drugs, magnesium sulfate, antibiotics, iron, FP commodities in last 6 months	Health Facilities	E
Priority	Access	4 Basic EOC facilities per “500,000” population[13]	MOH Records	E
Priority	Access	1 comprehensive EOC facility per “500,000” population	MOH Records	E
Priority	Access	≥15% of births take place at EOC facilities	Health Facilities	E
Priority	Access	% births by c-section	Health Facilities	E
Priority	Access	Number of STI Treatment Facilities per specified catchment area is consistent with national norms	MOH Records	E
Core	Access	Number of confirmed referrals for clinical contraception by method	CBD Records, Health Facility	E
Priority	Availability	% facilities who offer LAM according to prescribed protocol	Health Workers,	G
Priority	Availability	% of Health workers, pharmacies & other providers providing emergency contraception	Health Facility and Other Records	E
Untested	Availability	% of Health workers who know the optimal birth interval for child survival for project area or country (or when data are not available assume that the interval is >35 months)	KPC, LQAS	G
Priority	CS:DCM Availability	% health facilities with no stockouts of IV rehydration fluids/equipment in the last 6 months	Health Facilities	E
Priority	Availability	% health facilities with no stockouts of ORS in the last 6 months	Health Facilities	E
Priority	CS:PCM Availability	% health facilities with no stockouts in the last 6 months of antibiotics used for SCM of pneumonia	Health Facilities	E

[13] *Networks* will not be responsible for building, renovating, or equipping facilities. PVOs often finance these costs using other mechanisms such as matching funds or with funds obtained through special appeals.

Priority	Availability	% drug sellers who know how to diagnose and treat pneumonia symptoms with appropriate antibiotics[14]	Local Drug Sellers	I
Priority	Availability	% health facilities with clinicians using SCM for pneumonia diagnosis and treatment	Health Facilities	E
Priority	CS: Malaria Availability	% health facilities with no stockouts of appropriate antimalarials (consistent with MOH norms) in the last 6 months	Health Facilities	E
Priority	Availability	% health facility clinicians who know how to diagnose and treat malaria symptoms with appropriate antimalarials	Health Workers	G
Priority	Availability	% drug sellers who know how to diagnose and treat malaria symptoms with appropriate antimalarials	Local Drug Sellers	I
Priority	CS: Nutrition Availability	% health facilities with no stockouts of iron/folate tablets in the last 6 months	Health Facilities	E

[14] *Drug Sellers* will be defined by the local project staff.

ANNEX 2: LQAS PRINCIPLES

In this project a sample of 19 (i.e., households, mothers, or children) will be chosen to assess each management unit catchment area. This sample size was chosen because it has an acceptable amount of error associated with it. In practical terms, with a sample of 18, the corresponding measurement error will result in more project areas being misclassified. With a sample of 20, the same number of project areas will be misclassified as with the sample of 19. Therefore, the smaller sample of 19 is preferable because it is more efficient.

The following table shows a wide range of upper and lower thresholds for interventions, decision rules, and the corresponding sensitivity and specificity for a sample of 19. Because this is a crucial table, it is explained in detail.

Row 1 consists of a range of upper and lower thresholds. It is a triage system. For example, the first value is 80%:50%. This means that this particular LQAS design will accurately detect communities with coverage that is 80% or higher, and those with coverage that is 50% or lower. Each additional cell in row 1 presents another triage system such as 70%:40%, 50%:20%, and so on.

Row 2 consists of decision rules that will lead to the accurate classification of communities according to the triage criteria. In brief, a catchment area can be accurately judged as having, say, 80% or higher measles vaccination coverage if in a sample of 19 children, six or fewer of them are not vaccinated. If more than six are not vaccinated then the catchment area is classified as having inadequate coverage.

Row 3 is the *sensitivity* for each decision rule. For example, a 19:6 rule will accurately identify at least 93.2% of the areas with 50% or less coverage. A 19:10 rule will accurately identify at least 91.2% of the areas having 30% or less coverage.

Row 4 is the *specificity* for each decision rule. For example, a 19:6 rule will accurately identify at least 91.6% of areas with 80% or more coverage. A 19:10 rule will also accurately identify at least 91.6% of the areas having 60% or more coverage.

Row 5 is the total error which is: (1-specifity) + (1-sensitivity).

This information will be applied as follows:

If the catchment area manager wants to know whether at least 80% of the mothers know how to prepare and use ORT, the area supervisor would visit 19 systematically selected households. If six or fewer of those mothers *did not know* how to do it, then the area would be judged as having reached the standard. As the table shows, a 19:6 decision rule is 91.6% specific in identifying areas that have reached or exceeded the 80% threshold. And it will be at least 93.2% sensitive in identifying areas in which 50% or fewer of the women know the intervention.

LQAS Table of 11 Triage Thresholds, Their Decision Rules for Judging Catchment Area Coverage, Related Sensitivities, Specifications, and Total Error.											
Triage Thresholds	**80%-50%**	**75%-45%**	**70%-40%**	**65%-35%**	**60%-30%**	**55%-25%**	**50%-20%**	**45%-15%**	**40%-10%**	**35%-10%**	**30%-5%**
Decision Rules For n=19	19:6	19:7	19:8	19:9	19:10	19:11	19:12	19:13	19:14	19:15	19:16
Sensitivity	0.932	0.923	0.916	0.913	0.912	0.913	0.916	0.946	0.965	0.885	0.933
Specificity	0.916	0.913	0.912	0.913	0.916	0.923	0.932	0.922	0.93	0.941	0.954
Total Error	0.152	0.164	0.172	0.174	0.172	0.164	0.152	0.132	0.105	0.174	0.113

A. Progress toward Quality

LQAS can be used by PVOs/NGO managing catchment areas to assess progress in their own area regularly (e.g., annually). Using the first table presented, a local manager would initially choose modest thresholds. As coverage improves the thresholds would progressively increase until the areas are being assessed on whether or not they have reached the project's objectives. For example, in monitoring DCM, or PCM a manager would use a 50%:20% triage. Over time as coverage improves, thresholds would increase to 60%:30%, 70%:40, 80%:50%.

B. Making Decisions

In addition to aiding local managers, LQAS data can be useful to the focus country network manager and to the *Networks* team by providing data to measure the indicators in a form that can be reported to PVO headquarters and to USAID. In this table, seven catchment areas have been sampled to assess ORT coverage using a 50%:20% triage, and a 19:12 decision rule. As this table shows, catchment areas 3, 4, and 6 have reached the 50% standard while 1, 2, 5 and 7 have failed to reach it. Network managers can therefore focus their efforts on the catchment areas not reaching the standard.

An Example of Using LQAS Results from 7 Management Unit Catchment Areas to Calculate a Coverage Proportion with Confidence Intervals						
Management Unit	**n**	**d**	**A=(n-d)/n**	**N**	**Wt=N/ΣN**	**Wt*A**
1	19	14	0.263	10250	0.19	0.05
2	19	12	0.368	5000	0.09	0.03
3	19	8	0.579	7500	0.14	0.08
4	19	6	0.684	8000	0.14	0.10
5	19	13	0.316	6250	0.11	0.04
6	19	9	0.526	9000	0.16	0.09
7	19	13	0.316	9250	0.17	0.05
Total Coverage				55250		0.43
Confidence Interval =						0.082
d=observations not having the intervention, n=LQAS sample, A=management unit coverage, N=size of the catchment area						

These data will also be used for another purpose, namely, to calculate overall coverage with the intervention in the entire network catchment area. As the table shows, the coverage is 43% ±8.2%. By aggregating the seven small samples from each PVO/NGO catchment area (which in their own right are useful for local management decision making), coverage in the entire project area can also be measured in a form that is easily reported.

We should point out that the above table uses a standard format for calculating coverage weighted by the size of the population in each catchment area. However, this precision is not really necessary. If the population sizes in column 5 were reduced to one (resulting in a total of seven), the resulting coverage measure would increase by one percentage point. This amount of error probably does not warrant determining precisely the population sizes.

C. Advantages and Disadvantages

The advantages of LQAS are as follows:

- It is precise, rapid, and uses a rigorous statistic.
- Data can be stratified for analyses while maintaining statistical rigor.
- Data can be gathered locally by managers who can easily analyze and use the results.
- It is not costly.

The disadvantages are:

- It is a relatively new method and is not familiar to some PVOs.
- User friendly materials need to be developed for training field workers.

ANNEX 3: PREPARATORY STEPS LEADING TO THE DEVELOPMENT OF THE M&E PLAN

This M&E Plan was developed using the following procedures:

1. The *Networks* project team held an indicators brainstorming workshop with PVO Partners and other invited colleagues on July 8, 1998. At that time the IRs and sub-IRs were discussed in detail and the sub-IRs were re-articulated in terms that were meaningful to the *Networks* project team members. The participants brainstormed to develop broad indicators for empirically assessing the IRs and sub-IRs. These broad indicators were viewed as indicator categories since they clarified the types of indicators that *Networks* team members wanted.

2. In drafting the *Networks* Workplan, team members selected indicator categories from the brainstorming workshop for inclusion in the Workplan. These categories were refined in discussion with team members.

3. A monitoring and evaluation strategy was drafted and presented at the *Networks* project Strategic Planning Workshop held during August 1998. A recurrent workshop suggestion was that the *Networks* project focus its concern on the development of MIS and information collection procedures.

4. At the Strategic Planning Workshop, the M&E strategy was presented to the assembly who provided comments and suggestions on how to improve it.

5. Comments, suggestions, and the recorded minutes of the Strategic Planning Workshop session were incorporated into the M&E strategy and included in the *Networks* project Workplan.

6. During August-October and beyond the Senior M&E Advisor gathered various indicator lists from diverse sources: CAs, USAID, International Organizations, PVOs, and professional colleagues [5, 53, 56]. These were studied and the Senior M&E Advisor extracted those that addressed the indicator categories developed in the indicators brainstorming session and that could measure the IRs and sub-IRs.

7. During September-November the Results Package Partners (ENABLE and CARE-MoRR) were contacted to discuss their own M&E strategy and to propose that the Results Package partners work together to assist each other in formulating indicators, tools, and methods.

8. During September-November, CAs were contacted to provide suggestions on indicators that could be relevant to PVOs measuring field based programs, since they would not carry out DHS-like assessments.

9. During October 1998, the Senior M&E Advisor organized a meeting with a set of PVOs interested in applying the LQAS method in the management of their child survival projects. They expressed an interest in participating in an effort to field test an application of LQAS to determine whether local supervisors could apply the method for regular program monitoring. They agreed to do this at their

own cost if technical assistance was available from the *Networks* project. This request was tabled, pending the completion of the M&E Plan.

10. During October-November 1998, M&E advisors in PLAN, ADRA, CARE, and Save the Children were also contacted to discuss the M&E Plan.

11. A Draft M&E Plan was presented in December 1998 to the PVO Partners with a request for comments. Final comments were received on January 25, 1999 and incorporated into a second Draft M&E Plan.

12. *Networks* team members have a M&E Plan and Indicators Review Session during December 1998 after which their comments and suggestions were incorporated into the next draft document.

13. Comments were requested during the week of February 8 from USAID colleagues that will also be addressed in a final document.

14. An Indicators and Sampling Technical Consultation was organized on February 16 with CAs (MEASURE, Linkages, BASICS, Mothercare, Horizons, Frontiers), the PVO Partners, CORE, CSTS, ENABLE, CARE-MoRR, USAID, and relevant professional colleagues. The purpose was to advance toward a final M&E Plan and core indicators list.

15. Priority indicators were refined during February-March by the NMU with consultation with CAs and G/PHN.

16. Tentative Core indicators selected during April.

ANNEX 4: EXPECTED M&E TIMELINE

TASK	SUB-TASK	EXPECTED START	EXPECTED FINISH
INDICATOR WORK		February 16, 1999	May 31, 1999
	Technical Consultation with CAs, USAID, PVOs	February 16, 1999	February 16, 1999
	Comments integrated in Draft 3 M&E Plan	February 16, 1999	March 5, 1999
	Draft 3 M&E Plan circulated	March 8, 1999	March 8, 1999
	M&E Plan Approved by G/PHN	March 15, 1999	March 15, 1999
	Tentative Core Indicators Selected	March 18, 1999	March 18, 1999
	KPC Indicators Approved by CORE at Annual Meeting	April 19, 1999	April 23, 1999
	Technical Consultation and follow-up with CAs, USAID, PVOs to Improve Indicators	March 8, 1999	May 3, 1999
	OR Agenda Developed to Refine Indicators	March 8, 1999	May 3, 1999
	Networks, Partners & G/PHN agree on project Core Indicators	May 4, 1999	May 31, 1999
SAMPLING WORK		March 8, 1999	August 23, 1999
	Technical Consultation with CAs, USAID, PVOs, CDC to Improve Sampling	March 8, 1999	May 3, 1999
	OR Agenda Developed to Refine Sampling Issues	March 8, 1999	May 3, 1999
	Field Test LQAS Rapid Sampling Approaches with PVOs (Tentative)	May 17, 1999	July 9, 1999
	Operational, Cost Analyses of LQAS Field Applications (Tentative)	May 17, 1999	July 9, 1999
	Carry out OR of Sampling as Pertinent to *Networks* project	May 3, 1999	August 1, 1999
	Technical Consultation with CAs, PVOs, USAID re Results of OR and Analyses	August 2, 1999	August 6, 1999
	Networks, PVOs and G/PHN Agree on M&E Sampling Approach	August 9, 1999	August 20, 1999
	Begin to Apply M&E Approach in Focus Countries	August 23, 1999	August 23, 1999
TRAINING OF SURVEY TRAINERS WORKSHOPS		March 18, 1999	December 15, 1999
	Adapt Existing Curriculum to Networks	April 1, 1999	July 1, 1999
	Technical Consultation with Networks Team to Plan Additional TOST Materials	April 1, 1999	August 1, 1999
	Develop Additional TOST Materials	August 1, 1999	September 30, 1999
	Plan TOST for Focus Countries	June 1, 1999	December 15, 1999
	Refine Questionnaires, Data Entry, Cleaning, Analysis, Reporting Routines	March 18, 1999	September 14, 1999
DATA BASE DEVELOPMENT		May 3, 1999	August 25, 1999
	Plan Data Base Development Strategy	May 3, 1999	May 14, 1999
	Develop Database System for NMU and Focus Countries	June 3, 1999	June 30, 1999
	Develop Qualitative Database Design	June 3, 1999	July 28, 1999
	Field Test Qualitative and Quantitative Database Systems in Focus Country	July 1, 1999	August 25, 1999

ANNEX 5: LQAS TABLE FOR SELECTING SAMPLE SIZES AND DECISION RULES FOR COVERAGE THRESHOLDS RANGING FROM 10% TO 95%

The two tables included in this Annex were developed so that LQAS could be used by field workers to select their sample sizes and to know the decision rule with which to decide if a catchment area had reached an acceptable level of coverage or was substantially below it. All of the tables presented here are based on previous LQAS tables published elsewhere [4, 55].

The tables are organized as follows. The coverage that the health worker expects to obtain with an intervention is referred to as the *upper threshold*. The *lower threshold* is a level of coverage that is far below what the health worker was expected to obtain. Health workers who do not exceed this minimum are considered to be substandard and to need technical assistance. The *upper threshold* values are the column headings. The *lower threshold* values are the row headings. By joining these two values one arrives at a cell with three values in it (Sample Size with Decision Rule, and two error terms). Let's assume that the upper threshold is 80% and the lower threshold is 50%. By joining the column and row one arrives at a cell. The top value (e.g., 19:6) is a sample size and the corresponding decision rule. Therefore, if 19 children are sampled from a catchment area or a community, and six or fewer are not vaccinated against measles, one can judge that the area has reached the expected coverage level of 80%. If seven or more have not been vaccinated, one can be certain that the area did not reach this coverage threshold. Further, one can presume that one is identifying areas with low coverage (e.g., 50% or less).

The next two values are the producer and consumer risk, also referred to alpha and beta errors. Specificity and sensitivity can be derived from these values since: specificity = 1 – alpha error; and sensitivity = 1 – beta error. These values show the error for incorrectly identifying workers that reach the expected level of coverage (i.e., .068), and those that are seriously below it (i.e., .084). In practice these two errors are not needed by field workers. They are included here to draw the distinction between Tables 1 and 2.

The difference between Table 1 and 2 is that Table 1 has producer and consumer risks less than 10%. Table 2 has producer and consumer risks less that 5%. This means that there is no more than 10% or 5% error in identifying health workers who reach the expected level of coverage. There is a similar error for identifying health workers who fall substantially below it. In practice one should use Table 1. Limiting error to <10% provides sufficient information for management decision making in a local health program, and requires a minimal amount of time for data collection by health workers.

To use the tables follow these steps:

1. Select the level of coverage you expect the health worker to achieve. This is the *upper threshold*.
2. Find the *upper threshold* on the column heading and place your finger there. Then bring your finger down the column to the first cell with information in it.
3. In the cell you will find the LQAS sample size and the decision rule. For example: with an 80% *upper threshold*, and an Error of <10%, the sample and decision rule are 19:6. Which means that in a sample of 19, if more than six have not received the intervention, then the target has not been reached.
4. If you carry your finger to the extreme right where the row headings are, you will see the lower threshold of coverage to which the sample and decision rule are sensitive.

RECOMMENDATION: If possible, always use Table 1 since greater accuracy is seldom needed.

SAMPLE SIZE=19

Decision rule for an LQAS sample of 19 for upper and lower threshold ranges of 20-95% and 0-75% respectively, with corresponding producer and consumer risks (α and β errors)

LOWER THRESHOLD	UPPER THRESHOLD 20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%	90%	95%
0%	18 0.014 0.000	17 0.031 0.000	16 0.046 0.000	16 0.017 0.000												
5%		16 0.111 0.067	16 0.046 0.067	15 0.059 0.013	15 0.023 0.013											
10%				15 0.059 0.115	14 0.070 0.035	14 0.028 0.035	13 0.032 0.009									
15%					14 0.070 0.144	13 0.078 0.054	13 0.032 0.054	12 0.034 0.016								
20%						12 0.173 0.068	12 0.084 0.068	12 0.034 0.068	11 0.035 0.023							
25%							11 0.180 0.077	11 0.087 0.077	11 0.035 0.077	10 0.035 0.029						
30%							11 0.180 0.182	10 0.184 0.084	10 0.088 0.084	10 0.035 0.084	9 0.033 0.033					
35%								10 0.184 0.185	9 0.186 0.087	9 0.087 0.087	9 0.033 0.087	8 0.029 0.035				
40%									9 0.186 0.186	8 0.185 0.088	8 0.084 0.088	7 0.077 0.035	7 0.023 0.035			
45%										8 0.185 0.184	8 0.084 0.184	7 0.077 0.087	6 0.068 0.034	6 0.016 0.034		
50%											7 0.182 0.180	7 0.077 0.180	6 0.068 0.084	5 0.054 0.032	5 0.009 0.032	
55%												6 0.175 0.173	5 0.163 0.078	5 0.054 0.078	4 0.035 0.028	3 0.013 0.008
60%													5 0.163 0.163	4 0.144 0.070	4 0.035 0.070	3 0.013 0.023
65%														4 0.144 0.150	3 0.115 0.059	3 0.013 0.059
70%															3 0.115 0.133	2 0.067 0.046
75%																2 0.067 0.111

TABLE 1: ERRORS < 10% — LQAS SAMPLE SIZES AND DECISION RULES WITH PRODUCER AND CONSUMER RISKS FOR UPPER COVERAGE THRESHOLDS OF 20%-95% AND LOWER THRESHOLDS OF 0%-75%. **by Joseph J. Valadez, February 1999**

Smallest sample size possible while keeping all errors to <.10

	UPPER THRESHOLD															
LOWER	**20%**	**25%**	**30%**	**35%**	**40%**	**45%**	**50%**	**55%**	**60%**	**65%**	**70%**	**75%**	**80%**	**85%**	**90%**	**95%**
0%	11:10 (.086, 0)	10:9 (.056,0)	10:9 (.028,0)													
5%		20:17 (.091,.075)	16:13 (.099,.043)	10:8 (.086,.086)												
10%			____	18:14 (.078,.098)	15:11 (.091,.056)											
15%				____	12:8 (.092,.092)	16:11 (.085,.079)										
20%					____	24:16 (.086,.089)	19:12 (.084,.068)									
25%						____	26:16 (.084,.091)	19:11 (.087,.077)								
30%							____	25:14 (.096,.098)	19:10 (.088,.084)							
35%								____	29:15 (.071,.098)	17:8 (.099,.099)						
40%									____	29:13 (.098,.071)	19:8 (.084,.088)					
45%										____	25:10 (.098,.096)	19:7 (.077,.087)				
50%											____	26:9 (.091,.084)	19:6 (.068,.084)			
55%												____	24:7 (.089,.086)	16:4 (.079,.085)		
60%													____	21:5 (.083,.096)	15:3 (.056,.091)	
65%														____	18:3 (.098,.078)	10:1 (.086,.086)
70%															23:4 (.073,.036)	16:2 (.043,.099)
75%																20:2 (.075,.091)

TABLE 2: ERRORS < 5% — LQAS SAMPLE SIZES AND DECISION RULES WITH PRODUCER AND CONSUMER RISKS FOR UPPER COVERAGE THRESHOLDS OF 20%-95% AND LOWER THRESHOLDS OF 0%-75%.

by Joseph J. Valadez, February 1999

Smallest sample size:decision rules with errors <.050

	UPPER THRESHOLD															
Lower	**20%**	**25%**	**30%**	**35%**	**40%**	**45%**	**50%**	**55%**	**60%**	**65%**	**70%**	**75%**	**80%**	**85%**	**90%**	**95%**
0%	13:12 (.046,0)	11:10 (.042,0)	10:9 (.028,0)													
5%		_____	24:20 (.042,.030)	16:13 (.045,.043)												
10%			_____	_____	24:18 (.040,.028)											
15%				_____	_____	26:18 (.047,.032)										
20%					____	_____	28:18 (.044,.039)									
25%						____	_____	29:17 (.049,.039)								
30%							_____	_____	30:16 (.048,.040)							
35%								_____	_____	29:14 (.048,.048)						
40%									_____	_____	30:13 (.040,.048)					
45%										_____	_____	29:11 (.039,.049)				
50%											_____	_____	28:9 (.039,.044)			
55%												_____	_____	26:7 (.032,.047)		
60%													_____	_____	24:5 (.028,.040)	
65%														_____	_____	16:2 (.043,.045)
70%															_____	24:3 (.030,.042)
75%																_____

BIBLIOGRAPHY

1. Norton, M. and S.P. Benoliel, *Guidelines for Data Collection, Monitoring, and Evaluation Plans for A.I.D.-Assisted projects*. 1987, Agency for International Development: Washington, DC.

2. Campbell, D.T. and J.C. Stanley, *Experimental and Quasi-Experimental Designs for Research*. 1966, Chicago: Rand McNally.

3. Cook, T. and D.T. Campbell, *Quasi-Experimentation: Design and Analysis for Field Settings*. 1979, Chicago: Rand McNally.

4. Valadez, J.J., *Assessing Child Survival Programs in Developing Countries: Testing Lot Quality Assurance Sampling*. 1 ed. Harvard Series on Population and International Health, ed. H.S.o.P. Health. 1991, Boston, MA: Harvard University Press. 247.

5. Plan, International. *KPC-Based Health Knowledge Questionnaire: Growing-Up Healthy Impact Indicators*. 1998, PLAN International: Woking, UK.

6. AID, *Common Indicators for Agency Objective 3.3: Maternal Mortality*. 1997 & 1998, AID: Washington, DC.

7. AID, *R4: Results Review FY2000*. 1998, Center for Population, Health and Nutrition, Bureau for Global Programs, Field Support, and Research, AID: Washington, DC.

8. AID, *Managing for Results: Monitoring and Evaluation Performance*. 1998, AID: Washington, DC.

9. Bertrand, J.T., R.J. Magnani, and J.C. Knowles, *Handbook of Indicators for Family Planning Program Evaluation*. 1994, The Evaluation project: Chapel Hill, NC.

10. Bhatt, P., *An SO4 Strategy for Presenting and Reporting on NGO/CBO Capacity Building Activities: A Concept paper and Proposal to the IWG*. 1998, USAID: Washington DC.

11. BHR/PVC, *Most frequently asked questions about DOSA*. 1998, USAID: BHR/PVC/USAID Web site.

12. Brahman, S., *Draft strategy for the PVO organizational assessments*. 1998, NGO Networks for Health Initiative: Washington, DC.

13. Burkhalter, B., *et al.*, *Variations in estimates of Guatemalan infant mortality, vaccination coverage, and ORS use reported by different sources.* Bulletin of PAHO, 1995. **29**(1): p. 1-22.

14. DHS, *Tanzania: Demographic and Health Survey, 1996*. 1996, Macro International: Calverton, MD.

15. DHS, *Kyrgyz: Demographic and Health Survey, 1997*. 1997, Macro International: Calverton, MD.

16. DHS, *Demographic and Health Surveys Model "A" Woman's Questionnaire*. 1998, Macro International: Calverton, CA.

17. ENABLE, *The ENABLE project: Enabling Change for Women's Reproductive Health*. 1998, The Center for Development and Population Activities: Washington, DC.

18. Flores, R., J. Robles, and B.R. Burkhalter, *Implementation and evaluation of the distance education course: Update in the management of cholera and diarrheal diseases*. 1998, BASICS: Arlington, VA.

19. Fund, C.C.s., *Annual Impact Monitoring and Evaluation Systems: AIMES*. 1998, Christian Children's Fund: Richmond, VA.

20. Galloway, R. and A. Cohn, *Indicators for Reproductive Health Program Evaluation*. 1995, The Evaluation project: Washington DC.

21. HHRAA, *Working Document on: Health and Family Planning Indicators: A Tool for Results Frameworks*. 1998, Health and Human Resources Analysis for Africa project, Office of Sustainable Development, Bureau for Africa, USAID: Washington, DC.

22. Islam, S.M.A., *et al.*, *In Search of Results: Report of the PVO Child Survival Knowledge, Practice and Coverage (KPC) Surveys 1991-1997*. 1998, PVO Child Survival Support Program, Department of International Health, Johns Hopkins School of Hygiene and Public Health: Baltimore, MD.

23. JSI, *Family Planning Program Monitoring and Evaluation System: FPPMES*. 1996, John Snow Inc: Boston, MA.

24. Knight, R.J. and A.O. Tsui, *Family planning and sustainability at the outcome and program levels: Constructing indicators for USAID strategic planning*. 1997, The Evaluation project: Chapel Hill, NC.

25. Koblinsky, M., R. Galloway, and C. Conroy, *Programming for Safe Motherhood Including Anemia Indicators and Program Elements*. 1997, MotherCare: Arlington, VA.

26. Koblinsky, M., *Moving to Scale from Mother Care II: Maternal and Newborn Health and Nutrition Interventions*. 1998, MotherCare: Washington, DC. p. 1.

27. Koblinsky, M., *Safe Motherhood Indicators: Lessons from the Field*. 1999, MotherCare/John Snow Inc.: Arlington, VA.

28. Linkages, ***LINKAGES' LAM Indicators***. 1999, Academy for Educational Development: Washington DC.

29. Lung'aho, M.S., *et al.*, *Tool kit for monitoring and evaluating breastfeeding practices and programs*. 1996, Wellstart International: Washington, DC.

30. McDonnald, M., *Indicators for malaria interventions*. 1998, BASICS (Draft): Arlington, VA.

31. Measures/Evaluation, *Handbook of Indicators for USAID HIV/AIDS/STI Programs*. FHI/Impact, PC/Horizons, and PSI/AIDSMARK, Editors. 1998, Draft: Washington, DC.

32. Miller, R., *et al.*, *The situation analysis approach to assessing family planning and reproductive health services*. 1997, The Population Council: NY, New York.

33. Murray, J., *et al.*, *Emphasis behaviors in maternal and child health: Focusing on caretaker behaviors to develop maternal and child health programs in communities*. 1997, BASICS: Arlington, VA.

34. Murray, J. and S. Manoncourt, *Use of an integrated health facility assessment for planning maternal and child health programs: Results from four African countries*. 1998, BASICS: Arlington, VA.

35. Nachbar, N., C. Baume, and A. Parekh, *Assessing Safe Motherhood in the Community: A Guide to Formative Research*. 1998, MotherCare/John Snow. Inc: Arlington, VA.

36. O'Gara, C., M.H. Newsome, and C. Viadro, *Indicators for Reproductive Health Program Evaluation*. 1995, The Evaluation project: Chapel Hill, NC.

37. Pisani, E., *et al.*, *Meeting the Behavioral Data Collection Needs of National HIV/AIDS and STD Programmes: Joint Impact/FHI/UNAIDS Workshop: Report and Conclusions*. 1998, IMPACT, UNAIDS, USAID: Washington DC.

38. project, E., *ENABLE project document*. 1998, CEDPA: Washington, DC.

39. Sanghvi, T.G. and J. Murray, *Improving child health through nutrition: The nutrition minimum package*. 1997, BASICS: Arlington, VA.

40. Selwyn, B.J., *Guidebook for maternal and neonatal health indicators: PROCOSI*. 1997, MotherCare: Washington, DC.

41. Shaver, T., *Save Mother Care Planning and Assessment Matrix*. 1998, NGO Networks for Health: DRAFT: Washington, DC.

42. Singh, J., *et al.*, *Evaluation of immunization coverage by lot quality assurance sampling compared with 30-cluster sampling in a primary health centre in India.* Bulletin: World Health Organization, 1996. **74**(3).

43. Wardlaw, T., *Process indicators for monitoring maternal mortality*. 1997, UNICEF: Sri Lanka.

44. WHO, *Evaluation of Monitoring of National Immunization Programmes*. 1986, EPI/WHO: Geneva, Switzerland.

45. WHO, *et al.*, *Integrated Management of Childhood Illness, Monitoring and Evaluation: Overview*. 1998, Working Group: Washington, DC.

46. AIDSCAP, *Evaluation Tools: Introduction to AIDSCAP Evaluation*. Undated, Family Health International: Arlington, VA.

47. CARE, *Assessing management capacity among non-governmental organizations*. 1993, CARE: Atlanta, CA.

48. CARE, *Reproductive health survey questionnaire*. 1998, CARE: Atlanta, GA.

49. MCDI, *Child Survival Indicators Matrix*. 1998, Medical Care Development International: Washington, DC.

50. Plan, International. *CPME: Reference Guide*. 1998, PLAN International: Woking, UK.

51. Plowman, M.B., *A proposed initiative to monitor program performance in the population, health and nutrition sector*. 1998, Save the Children: Washington, DC.

52. UNICEF, *State of the World's Children*. 1998, New York, NY: UNICEF. 131.

53. UNICEF, *World Summit for Children: Goals and Indicators*. 1998, UNICEF: New York, NY.

54. Valadez, J.J., *et al.*, *Assessing Family Planning Service-delivery Skills in Kenya.* Studies in Family Planning, 1997. **28**(2): p. 143-150.

55. Valadez, J.J., *A training manual for using Lot Quality Assurance Sampling to manage decentralized health programs: A users handbook*. 1998, OMNI: Washington, DC.

56. Ross, S.R., *Promoting safe maternal and new born care: A reference guide for program managers*. 1998, CARE: Atlanta, GA.

NGO Networks for Health (*Networks*) is a worldwide project to improve health services by building or strengthening partnerships at the community level between organizations that are already working there. These partnerships provide a range of services, including family planning, maternal and child health, and HIV prevention, that are relevant to the local situation. This five-year effort began in June 1998, and brings together five development organizations—the Adventist Development and Relief Agency (ADRA), Cooperative for Assistance and Relief Everywhere (CARE), Plan International, Program for Appropriate Technology in Health (PATH), and Save the Children USA. *Networks* is supported by USAID's Global/Population, Health, and Nutrition Center.

This publication was made possible through support by the Global/Population, Health, and Nutrition Center, United States Agency for International Development (USAID) under the terms of Grant No. HRN-A-00-98-00011-00. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of the USAID.